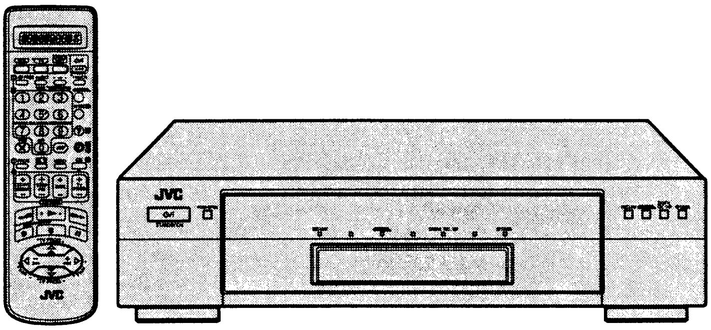
JVC

SERVICE MANUAL

VIDEO CASSETTE RECORDER

HR-S8600EK/S9600EK



Hi-Fi S-VHS 625

VIDEO Plus+

TIME JOG & SCAN

SPECIFICATIONS *(The specifications shown pertain specifically to the model HR-S9600EK)*

GENERAL

Power requirement : AC 220 – 240 V∿, 50/60 Hz
Power consumption
  Power on : 24 W
  Power off : 5.5 W
Temperature
  Operating : 5°C to 40°C
  Storage : –20°C to 60°C
Operating position : Horizontal only
Dimensions (WxHxD) : 437 x 106 x 352 mm
Weight : 5.1 kg
Format : S-VHS/VHS PAL standard
Maximum recording time
  (SP) : 240 min. with E-240 video cassette
  (LP) : 480 min. with E-240 video cassette

VIDEO/AUDIO

Signal system : PAL-type colour signal and CCIR monochrome signal, 625 lines/50 fields
Recording system : DA4 (Double Azimuth) helical scan system
Signal-to-noise ratio : 45 dB
Horizontal resolution : 250 lines (VHS)
  400 lines (S-VHS)
Frequency range : 70 Hz to 10,000 Hz (Normal audio)
  20 Hz to 20,000 Hz (Hi-Fi audio)
Input/Output : 21-pin SCART connectors
  (IN/OUT x 1, IN/DECODER x 1)
  RCA connectors
  (VIDEO IN x 1, AUDIO IN x 1, AUDIO OUT x 1)
  S-Video connectors
  (IN x 1, OUT x 1)

TUNER/TIMER

TV channel storage capacity : 99 positions (+AUX position)
Tuning system : Frequency synthesized tuner
Channel coverage : VHF 44.5 – 143/143 – 470 MHz
  UHF 470 – 862 MHz
Aerial output : UHF channels 22 – 69 (Adjustable)
Memory backup time : Approx. 10 min.

ACCESSORIES

Provided accessories : RF cable,
  Infrared remote control unit,
  "AA" battery x 2,
  S-Video cable

Specifications shown are for SP mode unless otherwise specified. E.& O.E. Design and specifications subject to change without notice.

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TABLE OF CONTENTS

Section Title Page

Important Safety Precautions

INSTRUCTIONS

1. DISASSEMBLY

1.1 DISASSEMBLY FLOW CHART 1-1
1.2 HOW TO READ THE DISASSEMBLY AND ASSEMBLY 1-1
1.3 DISASSEMBLY/ASSEMBLY METHOD 1-1
1.4 SERVICE POSITION 1-6
1.4.1 How to take out the Mechanism and Main board assemblies [HR-S9600EK] 1-6
1.4.2 How to take out the Mechanism and Main board assemblies [HR-S8600EK] 1-7
1.4.3 Precautions for cassette loading in the "SERVICE POSITION" 1-8
1.4.4 Cassette loading and ejection methods in the "SERVICE POSITION"(See Fig. 1-4-3 or Fig. 1-4-6). 1-8
1.5 MECHANISM SERVICE MODE 1-8
1.5.1 How to set the "MECHANISM SERVICE MODE" 1-8
1.6 EMERGENCY DISPLAY FUNCTION 1-9
1.6.1 How to display record of an emergency faults 1-9
1.6.2 Detail of emergency faults 1-9
1.6.3 How to clear emergency record 1-9
1.7 SYSCON CIRCUIT 1-10
1.7.1 Syscon CPU pin function (IC3001) 1/2 1-10
1.7.2 Syscon CPU pin function (IC3001) 2/2 1-11

2. MECHANISM ADJUSTMENT

2.1 BEFORE STARTING REPAIR AND ADJUSTMENT 2-1
2.1.1 Precautions 2-1
2.1.2 Checking for Proper Mechanical Operations 2-1
2.1.3 Manually Removing the Cassette Tape 2-1
2.1.4 Jigs and Tools Required for Adjustment 2-3
2.1.5 Maintenance and Inspection 2-3
2.2 REPLACEMENT OF MAJOR PARTS 2-6
2.2.1 Before Starting Disassembling (Phase matching between mechanical parts) 2-6
2.2.2 How to Set the Mechanism Assembling Mode 2-7
2.2.3 Cassette Holder Assembly 2-7
2.2.4 Pinch Roller Arm Assembly 2-10
2.2.5 Guide Arm Assembly and Press Lever Assembly 2-10
2.2.6 Audio Control Head 2-10
2.2.7 Loading Motor 2-11
2.2.8 Capstan Motor 2-11
2.2.9 Pole Base Assembly (supply or take-up side) 2-12
2.2.10 Rotary Encoder 2-12
2.2.11 Clutch Unit 2-13
2.2.12 Change Lever Assembly, Direct Gear and Clutch Gear1 2-13
2.2.13 Link Lever 2-13
2.2.14 Cassette Gear, Control Cam and Worm Gear 2-14
2.2.15 Control Plate 2-14
2.2.16 Loading Arm Gear (supply or take-up side) and Loading Arm Gear Shaft 2-15
2.2.17 Take-up Lever, Take-up Head and Control Plate Guide 2-16
2.2.18 Capstan Brake Assembly 2-17
2.2.19 Sub Brake Assembly (take-up side) 2-17
2.2.20 Main Brake Assembly (take-up side), Reel Disk (take-up side) and Main Brake Assembly (supply side) 2-17
2.2.21 Tension Brake Assembly, Reel Disk (supply side) and Tension Arm Assembly 2-18
2.2.22 Idler Lever, Idler Arm Assembly 2-18
2.2.23 Stator Assembly 2-18
2.2.24 Rotor Assembly 2-19
2.2.25 Upper Drum Assembly 2-19
2.3 COMPATIBILITY ADJUSTMENT 2-20
2.3.1 Checking/Adjustment of FM Waveform Linearity 2-20
2.3.2 Checking/Adjustment of the Height and Tilt of the Audio Control Head 2-22
2.3.3 Checking/Adjustment of the Audio Control Head Phase (X-Value) 2-22
2.3.4 Checking/Adjustment of the Standard Tracking Preset 2-23
2.3.5 Checking/Adjustment of the Tension Pole 2-23
2.3.6 Adjustment of the Tension Stud 2-23
2.3.7 Main Brake Torque Adjustment 2-23

3. ELECTRICAL ADJUSTMENT

3.1 PRECAUTION 3-1
3.1.1 Required test equipment 3-1
3.1.2 Required adjustment tools 3-1
3.1.3 Colour bar signal,colour bar pattern 3-1
3.2 SERVO CIRCUIT 3-2
3.2.1 PB switching point 3-2
3.2.2 Slow tracking preset 3-2
3.2.3 Dynamic drum preset 3-3
3.3 VIDEO CIRCUIT 3-3
3.3.1 EE Y level 3-3
3.3.2 SP/LP REC colour level 3-4
3.3.3 PB Y level (S-VHS/VHS) 3-4
3.3.4 S-VHS VIDEO EQ 3-5
3.3.5 D/A level 3-5
3.3.6 Pilot burst level 3-5
3.3.7 Auto picture 3-6
3.4 ON SCREEN CIRCUIT 3-6
3.4.1 Character position 3-6
3.5 AUDIO CIRCUIT 3-7
3.5.1 REC FM level 3-7

4. CHARTS AND DIAGRAMS

NOTES OF SCHEMATIC DIAGRAM 4-1
CIRCUIT BOARD NOTES 4-2
4.1 BOARD INTERCONNECTIONS 4-3
4.2 VIDEO/N.AUDIO SCHEMATIC DIAGRAM 4-5
4.3 ON SCREEN SCHEMATIC DIAGRAM 4-7
4.4 FMA SCHEMATIC DIAGRAM 4-9
4.5 SYSTEM CONTROL SCHEMATIC DIAGRAM 4-11
4.6 SWITCHING REGULATOR SCHEMATIC DIAGRAM 4-13
4.7 TUNER SCHEMATIC DIAGRAM 4-15
4.8 C.BOX CTL SCHEMATIC DIAGRAM 4-17
4.9 TERMINAL(MAIN) SCHEMATIC DIAGRAM 4-19
4.10 VSC SCHEMATIC DIAGRAM 4-21
4.11 MAIN AND A/C HEAD CIRCUIT BOARDS 4-25
4.12 3D SVHS(VIDEO) SCHEMATIC DIAGRAM 4-27
4.13 3D SVHS(3D/TBC) SCHEMATIC DIAGRAM 4-29
4.14 3D SVHS CIRCUIT BOARD 4-33
4.15 TERMINAL SCHEMATIC DIAGRAM 4-35
4.16 TERMINAL CIRCUIT BOARD 3-37
4.17 DEMODULATOR SCHEMATIC DIAGRAM 4-39
4.18 DEMODULATOR CIRCUIT BOARD 4-41
4.19 SWITCH/DISPLAY, REC SAFETY, JACK AND JOG SCHEMATIC DIAGRAMS [HR-S8600EK] 4-43
4.20 SWITCH/DISPLAY, REC SAFETY, JACK AND JOG CIRCUIT BOARDS [HR-S8600EK] 4-45
4.21 SWITCH/DISPLAY AND REC SAFETY SCHEMATIC DIAGRAMS [HR-S9600EK] 4-47
4.22 SWITCH/DISPLAY AND REC SAFETY CIRCUIT BOARDS [HR-S9600EK] 4-49
4.23 MEMBRANE DOOR SCHEMATIC DIAGRAM [HR-S9600EK] 4-51
4.24 FDP GRID ASSIGNMENT AND ANODE CONNECTION 4-52
4.25 REMOTE CONTROL SCHEMATIC DIAGRAM 4-53
4.26 VOLTAGE CHARTS 4-55
4.27 SYSTEM CONTROL BLOCK DIAGRAM 4-59
4.28 VIDEO BLOCK DIAGRAM 4-61
4.29 AUDIO BLOCK DIAGRAM 4-65

5. PARTS LIST

5.1 PACKING AND ACCESSORY ASSEMBLY <M1> 5-1
5.2 CABINET AND CHASSIS ASSEMBLY <M2> 5-2
5.3 MECHANISM ASSEMBLY <M4> 5-4
5.4 ELECTRICAL PARTS LIST 5-6
MAIN BOARD ASSEMBLY <03> 5-6
3D SVHS BOARD ASSEMBLY <05> 5-14
TERMINAL BOARD ASSEMBLY <06> 5-17
AUDIO CONTROL HEAD BOARD ASSEMBLY <12> 5-18
DEMOD BOARD ASSEMBLY <14> 5-18
SW/DISPLAY BOARD ASSEMBLY(S8600EK) <28> 5-19
SW/DISPLAY BOARD ASSEMBLY(S9600EK) <28> 5-20
REC SAFETY BOARD ASSEMBLY(S8600EK) <32> 5-20
REC SAFETY BOARD ASSEMBLY(S9600EK) <32> 5-20
JACK BOARD ASSEMBLY(S8600EK) <36> 5-21
JOG BOARD ASSEMBLY(S8600EK) <37> 5-21
LOADING MOTOR BOARD ASSEMBLY <55> 5-21

The following table lists the differing point between Models (HR-S8600EK and HR-S9600EK) in this series.

	HR-S8600EK	HR-S9600EK
TAPE ACCESS (MARK)	AUTO	AUTO/MANUAL
TAPE ACCESS (ERASE)	NO	MANUAL
HIGH GRADE AUDIO PARTS	NOT USED	USED
FOOT	NOT USED	USED
ACCESSORY (VIDEO CABLE)	NO	S(4PIN) – S(4PIN)

Safety Precautions

1. This design of this product contains special hardware and many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorised in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits.
2. Any unauthorised design alterations or additions will void the manufacturer's guarantee ; furthermore the manufacturer cannot accept responsibility for personal injury or property damage resulting therefrom.
3. Essential safety critical components are identified by (⚠) on the Parts List and by shading on the schematics, and must never be replaced by parts other than those listed in the manual. please note however that many electrical and mechanical parts in the product have special safety related characteristics. These characteristics are often not evident from visual inspection. Parts other than specified by the manufacturer may not have the same safety characteristics as the recommended replacement parts shown in the Parts List of the Service manual and may create shock, fire, or other hazards.
4. The leads in the products are routed and dressed with ties, clamps, tubings, barriers and the like to be separated from live parts, high temperature parts, moving parts and/or sharp edges for the prevention of electric shock and fire hazard. When service is required, the original lead routing and dress should be observed, and it should be confirmed that they have been returned to normal, after re-assembling.

Warning

1. Service should be performed by qualified personnel only.
2. This equipment has been designed and manufactured to meet international safety standards.
3. It is the legal responsibility of the repairer to ensure that these safety standards are maintained.
4. Repairs must be made in accordance with the relevant safety standards.
5. It is essential that safety critical components are replaced by approved parts.
6. If mains voltage selector is provided, check setting for local voltage.

INSTRUCTIONS [This instruction manual is for HR-S9600EK]

Safety Precautions

The rating plate and the safety caution are on the rear of the unit.

WARNING: DANGEROUS VOLTAGE INSIDE

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.

IMPORTANT

- Please read the various precautions on p. 2 – 4 of this instruction manual before installing or operating the recorder.
- It should be noted that it may be unlawful to re-record pre-recorded tapes, records, or discs without the consent of the owner of copyright in the sound or video recording, broadcast or cable programme and in any literary, dramatic, musical, or artistic work embodied therein.

IMPORTANT

Connection to the mains supply in the United Kingdom.

DO NOT cut off the mains plug from this equipment. If the plug fitted is not suitable for the power points in your home or the cable is too short to reach a power point, then obtain a proper safety approved extension lead/adapter or consult your dealer.

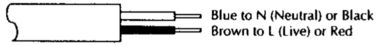
In the unlikely event of the plug fuse failing be sure to replace the fuse only with an identical approved type, as originally fitted, and to replace the fuse cover. If the fuse fails again consult your nearest JVC dealer.

If nonetheless the mains plug is cut off remove the fuse and dispose of the plug immediately, to avoid a possible shock hazard by inadvertent connection to the mains supply.

If this product is not supplied fitted with a mains plug then follow the instructions given below:

DO NOT make any connection to the Larger Terminal coded E or Green.

The wires in the mains lead are coloured in accordance with the following code:



If these colours do not correspond with the terminal identifications of your plug, connect as follows:

Blue wire to terminal coded N (Neutral) or coloured Black.

Brown wire to terminal coded L (Live) or coloured Red.

If in doubt — consult a competent electrician.

SVHS 625 VIDEO Plus+

- Cassettes marked "S-VHS" and "VHS" can be used with this video cassette recorder. However, S-VHS recordings are possible only with cassettes marked "S-VHS".
- VIDEO Plus+ and PlusCode are registered trademarks of Gemstar Development Corporation. The VIDEO Plus+ system is manufactured under license from Gemstar Development Corporation.

CAUTION

- When you are not using the recorder for a long period of time, it is recommended that you disconnect the power cord from the mains outlet.
- Dangerous voltage inside. Refer internal servicing to qualified service personnel. To prevent electric shock or fire hazard, remove the power cord from the mains outlet prior to connecting or disconnecting any signal lead or aerial.

The STANDBY/ON ⏻/I button does not completely shut off mains power from the unit, but switches operating current on and off. " ⏻ " shows electrical power standby and " I " shows ON.

Video tapes recorded with this video recorder in the LP (Long Play) mode cannot be played back on a single-speed video recorder.

Failure to heed the following precautions may result in damage to the recorder, remote control or video cassette.

1. **DO NOT place the recorder . . .**
   ... in an environment prone to extreme temperatures or humidity.
   ... in direct sunlight.
   ... in a dusty environment.
   ... in an environment where strong magnetic fields are generated.
   ... on a surface that is unstable or subject to vibration.
2. **DO NOT block the recorder's ventilation openings.**
3. **DO NOT place heavy objects on the recorder or remote control.**
4. **DO NOT place anything which might spill on top of the recorder or remote control.**
5. **AVOID violent shocks to the recorder during transport.**

MOISTURE CONDENSATION

Moisture in the air will condense on the recorder when you move it from a cold place to a warm place, or under extremely humid conditions—just as water droplets form in the surface of a glass filled with cold liquid. Moisture condensation on the head drum will cause damage to the tape. In conditions where condensation may occur, keep the recorder turned on for a few hours to let the moisture dry.

ABOUT HEAD CLEANING

Accumulation of dirt and other particles on the video heads may cause the playback picture to become blurred or interrupted. Be sure to contact your nearest JVC dealer if such troubles occur.

Some Do's And Don'ts On The Safe Use Of Equipment

This equipment has been designed and manufactured to meet international safety standards but, like any electrical equipment, care must be taken if you are to obtain the best results and safety is to be assured.

DO read the operating instructions before you attempt to use the equipment.

DO ensure that all electrical connections (including the mains plug, extension leads and interconnections between pieces of equipment) are properly made and in accordance with the manufacturer's instructions. Switch off and withdraw the mains plug when making or changing connections.

DO consult your dealer if you are ever in doubt about the installation, operation or safety of your equipment.

DO be careful with glass panels or doors on equipment.

DON'T continue to operate the equipment if you are in any doubt about it working normally, or if it is damaged in any way — switch off, withdraw the mains plug and consult your dealer.

DON'T remove any fixed cover as this may expose dangerous voltages.

DON'T leave equipment switched on when it is unattended unless it is specifically stated that it is designed for unattended operation or has a standby mode. Switch off using the switch on the equipment and make sure that your family knows how to do this. Special arrangements may need to be made for infirm or handicapped people.

DON'T use equipment such as personal stereos or radios so that you are distracted from the requirements of road safety. It is illegal to watch television whilst driving.

DON'T listen to headphones at high volume, as such use can permanently damage your hearing.

DON'T obstruct the ventilation of the equipment, for example with curtains or soft furnishings. Overheating will cause damage and shorten the life of the equipment.

DON'T use makeshift stands and NEVER fix legs with wood screws — to ensure complete safety always fit the manufacturer's approved stand or legs with the fixings provided according to the instructions.

DON'T allow electrical equipment to be exposed to rain or moisture.

ABOVE ALL...

— **NEVER** let anyone especially children push anything into holes, slots or any other opening in the case — this could result in a fatal electrical shock;

— **NEVER** guess or take chances with electrical equipment of any kind — it is better to be safe than sorry!

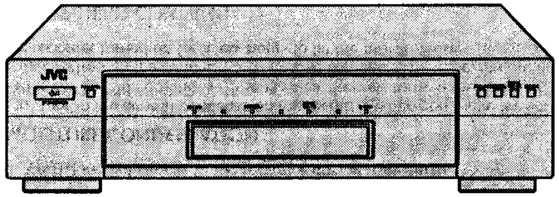
▶ Dear Customer,

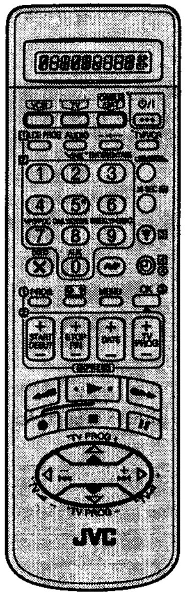
Thank you for purchasing this JVC Video Cassette Recorder.
Please use this **QUICK SET UP GUIDE** to help you to set up your video cassette recorder.

STEP 1 CHECK THE CONTENTS

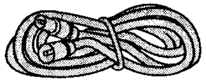
CHECK ALL THE CONTENTS SHOWN BELOW

Video Cassette Recorder

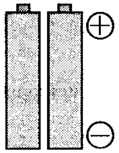




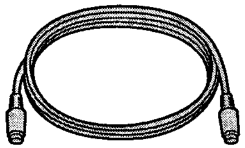
Infrared Remote Control Unit



RF Cable



"AA" Batteries (x 2)



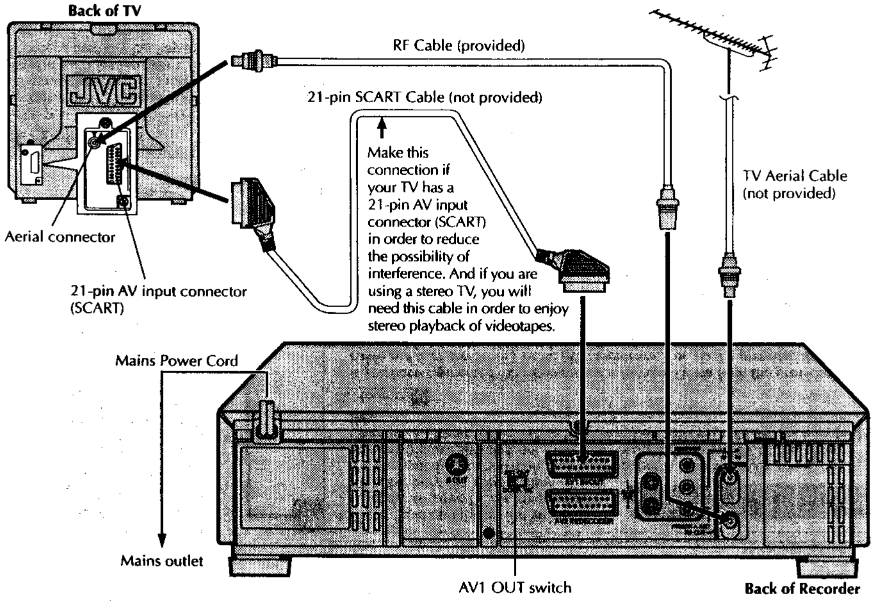
S-Video Cable

▶ You are now ready to install your video recorder.

STEP 2 INSTALLATION

CONNECT VIDEO RECORDER TO TV

▶ Place the recorder on a stable, flat surface.


Back of TV
JVC
RF Cable (provided)
21-pin SCART Cable (not provided)
TV Aerial Cable (not provided)
Aerial connector
21-pin AV input connector (SCART)
Mains Power Cord
Mains outlet
AV1 OUT switch
Back of Recorder

Make this connection if your TV has a 21-pin AV input connector (SCART) in order to reduce the possibility of interference. And if you are using a stereo TV, you will need this cable in order to enjoy stereo playback of videotapes.

RF CONNECTION

To connect to a TV with NO 21-pin AV input connector (SCART) . . .

1– Disconnect the TV aerial cable from the TV.
2– Connect the TV aerial cable to the ANT. IN jack on the rear panel of the recorder.
3– Connect the provided RF cable between the RF OUT jack on the rear panel of the recorder and the TV's aerial connector.

AV CONNECTION

To connect to a TV with 21-pin AV input connector (SCART) . . .

1– Connect the aerial, recorder and TV as per "RF CONNECTION".
2– Connect an optional SCART cable between the AV1 IN/OUT socket on the rear panel of the recorder and the TV's 21-pin AV input connector (SCART).
3– Set the **AV1 OUT** switch to the appropriate position. See "AV1 INPUT/OUTPUT SIGNAL SELECTION FOR AV CONNECTION" below.

AV1 INPUT/OUTPUT SIGNAL SELECTION FOR AV CONNECTION

The AV1 IN/OUT connector accepts and delivers either a composite signal (regular video signal) or a Y/C signal (a signal in which the luminance and chrominance signals are separated). For input signal selection, select "VIDEO" (regular video signal) or "S-VIDEO" (Y/C signal) for "AV1 SELECT" setting (☞ pg. 40). For output signal selection, use **AV1 OUT** switch of the rear panel.

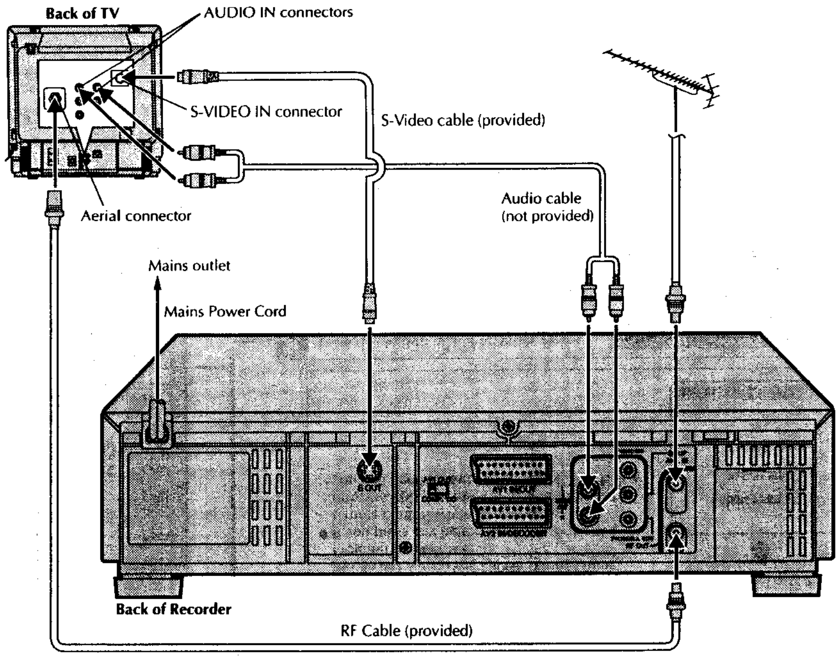
- If your TV's 21-pin AV input connector (SCART) is compatible only with the regular video signal, set this switch to COMP.
- If your TV's 21-pin AV input connector (SCART) is compatible with the Y/C signal, set this switch to Y/C. You can obtain high-quality S-VHS pictures. (For connection, be sure to use a 21-pin SCART cable that is compatible with the Y/C signal.)

NOTES:

- *Set your TV to the VIDEO (or AV), Y/C, or RGB mode according to the type of your TV's SCART connector.*
- *For switching the TV's mode, refer to the instruction manual of your television.*
- *To obtain high-quality S-VHS pictures, you can also use the S-VIDEO CONNECTION described on page 7.*

ATTENTION

- **Do NOT Plug the mains power cord into a mains outlet until all connections are completed.**
- **Do NOT press the ⏻/I button on the recorder or on the remote control to turn on the recorder's power before you start the Auto Set Up procedure described on page 8.**


Back of TV
AUDIO IN connectors
S-VIDEO IN connector
S-Video cable (provided)
Aerial connector
Audio cable (not provided)
Mains outlet
Mains Power Cord
Back of Recorder
RF Cable (provided)

S-VIDEO CONNECTION

To connect to a TV with S-VIDEO/AUDIO IN connectors . . .

1– Connect the aerial, recorder and TV as per "RF CONNECTION" (☞ pg. 6).
2– Connect the recorder's S OUT connector to the TV's S-VIDEO IN connector.
3– Connect the recorder's AUDIO OUT connectors to the TV's AUDIO IN connectors.

NOTES:

- *You can obtain high-quality S-VHS pictures.*
- *If your television is not stereo-capable, use the recorder's AUDIO OUT connectors to connect to an audio amplifier for Hi-Fi stereo sound reproduction. (☞ pg. 51)*
- *To operate the recorder with your TV using the S-VIDEO connection, set your TV to the VIDEO (or AV mode).*
- *For switching the TV's mode, refer to the instruction manual of your television.*

ATTENTION

- **Do NOT Plug the mains power cord into a mains outlet until all connections are completed.**
- **Do NOT press the ⏻/I button on the recorder or on the remote control to turn on the recorder's power before you start the Auto Set Up procedure described on page 8.**

AFTER YOU FINISH THIS STEP ▷ *Go to Step 3 – AUTO SET UP*

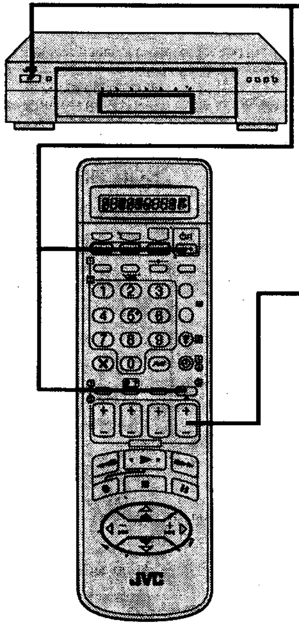
STEP 3 AUTO SET UP

SET THE TUNER CHANNELS, CLOCK, GUIDE PROGRAM NUMBERS AND VIDEO CHANNEL*

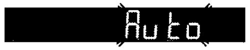
The Auto Set Up function sets the tuner channels, clock, VIDEO Plus+ assigned Guide Program numbers and the video channel* automatically the first time the ⏻/I button on the recorder or on the remote is pressed to turn on the recorder after the mains power cord has been plugged into a mains outlet.

* *Useful if you have connected the video recorder to your TV via RF connection (☞ pg. 6). Video Channel (RF output channel) is the channel on which your TV receives picture and sound signals from the video recorder through the RF cable.*

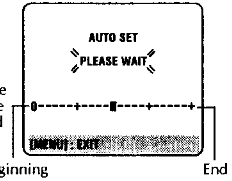
Before performing the following procedure, make sure that:
- ■ the TV aerial cable is connected to the recorder.
- ■ the mains power cord is plugged into the mains outlet.
- ■ batteries have been installed in the remote control.



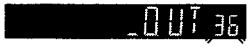
1 Press ⏻/I. If "Auto" appears on the display panel, press **OK** or ▷. "Auto" blinks; do NOT press any button on the recorder or remote control until the display panel shows either the display as illustrated below in item **2** or "– – :– –". Auto Set Up usually takes about 4 – 12 minutes; the duration varies by area.



- ● If "– –:– –" appears on the display panel, refer to page 10.
- ● If you have connected the video recorder to your TV via both the provided RF cable and a 21-pin SCART cable (AV connection) or via the provided RF cable, the provided S-Video cable and an audio cable (S-VIDEO connection) and if the TV is turned on and set to its AV mode, the AUTO SET screen will appear.

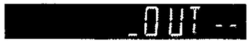


2
- ● ***If you have connected the video recorder to your TV via the provided RF cable only (RF connection) —*** the channel that is shown on the display panel is your Video Channel. **To view picture signals from the video recorder, set your TV to the Video Channel. — Refer to the instructions supplied with your TV set for how to do this.**



Go to item **3**.

- ● ***If you have connected the video recorder to your TV via both the provided RF cable and a 21-pin SCART cable (AV connection), or via the provided RF cable, the provided S-Video cable and an audio cable (S-VIDEO connection)*** — you do not need the video channel so you have to set the video channel to off. Press **TV PROG** – until the display panel shows "_OUT– –" to set the Video Channel to off. **To view picture signals from the video recorder, set your TV to its AV mode. — Refer to the instructions supplied with your TV set for how to do this.**



Go to item **3**.

3 Press **OK** to finish Auto Set Up and refer to page 10 to check the results.

ATTENTION

Once you have performed Auto Set Up, all the stored stations, Guide Program numbers and the video channel remain in the recorder's memory and the recorder will not perform Auto Set Up again. If there is a power cut and the recorder's memory backup expires you only need to reset the clock. (☞ pg. 61)

If you have moved to a different area, perform each setting as required.
- ■ Video Channel setting (for RF connection users) ☞ pg. 52
- ■ Tuner setting ☞ pg. 54
- ■ Clock setting ☞ pg. 61

If a new station begins broadcasting in your area, perform tuner setting (☞ pg. 54) and, if necessary, video channel setting (☞ pg. 52).

NOTES:

- ● *Auto channel set function takes place first; it assigns automatically all receivable stations in your area.*
- ● *Auto clock set function sets the clock automatically.*
- ● *During auto channel set, the recorder recognizes each station name of the detected stations and stores them in the recorder's memory, then automatically sets the VIDEO Plus+ assigned Guide Program number for those stations according to the broadcast area.*
- ● ***For RF connection users:** The video recorder detects the channels which are not occupied by local stations and selects one channel automatically for your Video Channel that is located in the middle of more than 5 vacant channels.*
- ● *If there is power cut or if you press ⏻/I or **MENU** while Auto Set Up is in progress, Auto Set Up will be interrupted; be sure to turn off the recorder power once and press ⏻/I to turn the power back on in order to re-start Auto Set Up.*

PRESET DOWNLOAD

SET THE TUNER CHANNELS BY DOWNLOADING FROM YOUR TV, CLOCK AND GUIDE PROGRAM NUMBERS

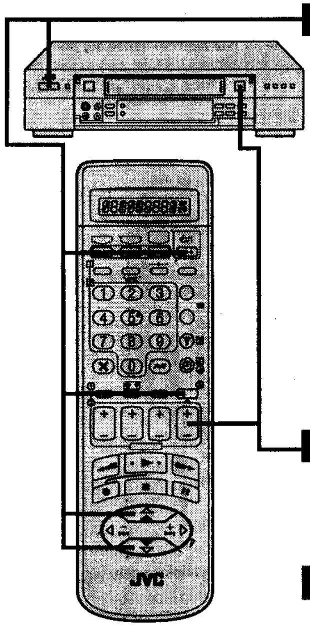
When you connect the recorder and your TV via fully-wired 21-pin SCART cable (☞ pg. 6), you can set the recorder's tuner channels by downloading preset data from your TV instead of using the Auto Set Up function (☞ pg. 8). After downloading is completed, the recorder sets the clock and VIDEO Plus+ assigned Guide Program numbers automatically.
For details, refer to the instruction manual for your TV.

ATTENTION

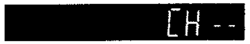
You can use this function only with a TV offering T-V Link, etc.*

* *Compatible with TVs offering T-V Link, EasyLink, Megalogic, SMARTLINK, Q-Link, DATA LOGIC or NEXTVIEWLINK via fully-wired 21-pin SCART cable. The degree of compatibility and available functions may differ by system.*

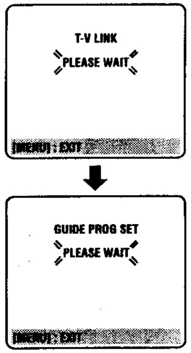
Before performing the following procedure, make sure that:
- ■ the TV aerial cable is connected to the recorder and a 21-pin SCART cable is connected between your TV and the recorder.
- ■ the mains power cord is plugged into the mains outlet.
- ■ batteries have been installed in the remote control.



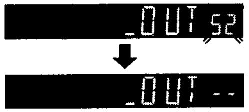
1 Press ⏻/I. If "Auto" appears on the display panel, Press △▽ to select "CH – –" and press **OK** or ▷. Preset position on the display panel increases from "CH1"; do NOT press any button on the recorder or remote control until the display panel shows either the display as illustrated on page 10 or "– – :– –".



- ● If "– –:– –" appears on the display panel, refer to page 10.
- ● If you are using the on-screen display, the T-V LINK screen will appear. Then the GUIDE PROG SET screen will appear during Guide Program number set.
- ● If you press any button on the recorder or remote control while downloading is in progress, this process will be interrupted and you will need to start again. See NOTES below.



2 Press ⏻/I to turn off the recorder. Press and hold down **STOP** on the recorder until the display panel shows the display as illustrated on the right. Press **TV PROG** – until the display panel shows "_OUT– –" to set the Video Channel to off.



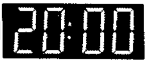
3 Press **OK** to exit Video Channel Set mode.
To view picture signals from the video recorder, set your TV to its AV mode.
— Refer to the instructions supplied with your TV set for how to do this.

NOTES:

- ● *In areas where no TV station transmits the PDC signal, the recorder cannot perform either auto clock set or auto Guide Program number set.*
- ● *If there is a power cut, or if you press ⏻/I or **MENU** while downloading or set up is in progress, it will be interrupted; be sure to turn off the recorder power once and try again from the beginning.*
- ● *Auto clock may not function properly depending on reception conditions.*
- ● *When you perform T-V LINK function, be sure to use fully-wired 21-pin SCART cable.*
- ● *On this recorder, the characters available for station names (ID) are A–Z, 0–9, –, ✱, + and ⎵ (space). The names of some downloaded stations may differ from those on your TV (☞ pg. 58).*

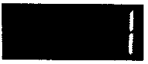
Auto Set Up results appear on the display panel

[A]



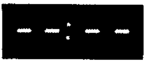
When both auto channel set and auto clock set have been completed successfully the correct current time will be displayed after the **OK** button is pressed in item [3] on page 8 or after performing the item [1] on page 9.

[B]



When auto channel set has been completed successfully but auto clock set has not, "(PR)1" will be displayed after the **OK** button is pressed in item [3] on page 8 or after performing the item [1] on page 9.

[C]



When neither auto channel set nor auto clock set has been completed successfully, "– –:– –" will be displayed.

* You can check if the Guide Program numbers have been set correctly when you perform VIDEO Plus+ Timer Programming (☞ pg. 16); if the correct preset position number is displayed in step **3**, this confirms that the Guide Program number for the PlusCode number you enter in step **2** has been set correctly.

[A] If both auto channel set and auto clock set have been performed successfully:

[1] Turn on the TV and select its VIDEO channel or AV mode, then make sure that all necessary stations have been stored in the recorder's memory by using the **TV PROG** button(s).
- If station names (ID — ☞ pg. 59) have also been stored in the recorder's memory, the station name will be displayed at the top left corner of the screen for about 5 seconds each time the recorder is tuned to a different station.
- If you want to set the tuner manually such as to add or skip channels, to change preset positions, or to set or change station names, see pages 56 – 58.

Now you have finished the basic set up and can use your recorder for both playback and recording.

[B] If auto channel set has succeeded but auto clock set has not:

[1] Turn on the TV and select its VIDEO channel or AV mode, then make sure that all necessary stations have been stored in the recorder's memory by using the **TV PROG** button(s).
- If station names (ID — ☞ pg. 59) have also been stored in the recorder's memory, the station name will be displayed at the top left corner of the screen for about 5 seconds each time the recorder is tuned to a different station.
- If you want to set the tuner manually such as to add or skip channels, to change preset positions, or to set or change station names, see pages 56 – 58.

[2] Perform "Clock Set" on page 61.

Now you have finished the basic set up and can use your recorder for both playback and recording.

[C] If both auto channel set and auto clock set have failed:

[1] Make sure the TV aerial cable is connected properly to the recorder and turn off the recorder power once, then turn the recorder power back on again.

[2] Perform "Auto Set Up" on page 8 or "Preset Download" on page 9.

IMPORTANT

- In certain reception conditions, station names may not be stored correctly, and auto Guide Program Number Set may not work properly. If the Guide Program numbers are not set properly, when you timer-record a TV programme using VIDEO Plus+, the recorder will record a TV programme of a different station. When programming the timer using VIDEO Plus+, be sure to check that the preset position corresponding to the broadcasting station you wish to record has been selected (☞ pg. 16, "VIDEO Plus+ Timer Programming").
- Your video recorder memorizes all detected stations even if reception of some of them is poor. In these cases picture quality may be poor. To delete those stations which have an unacceptable picture ☞ "Delete A Channel" on page 57.
- If any of the above problems occur, refer to pages 56 – 58 to input station names (☞ "Set Stations") or delete unnecessary stations (☞ "Delete A Channel"). You can also change station preset positions (☞ "Change Station Preset Position").
- **For RF connection users:** In certain reception conditions, the Video Channel may not be set correctly and interference may appear in the TV picture while the recorder's power is on. Set your Video Channel manually. ☞ pg. 52, "Video Channel Set".

If you have any difficulty with the above procedures call the JVC Customer Service Hot Line on 0181 208 7654

T-V Link Functions

When you connect the recorder and your TV via a fully-wired 21-pin SCART cable (☞ pg. 6), the following functions are available. You can use these functions only with a TV offering T-V Link, etc.*
For details, refer to the instruction manual for your TV.

** Compatible with TVs offering T-V Link, EasyLink, Megalogic, SMARTLINK, Q-Link, DATA LOGIC or NEXTVIEWLINK via fully-wired 21-pin SCART cable. The degree of compatibility and available functions may differ by system.*

NexTView Link

You can download the EPG (Electronic Programme Guide) information from your TV for timer-programming on the recorder.
For details, refer to the instruction manual for your TV.

TV Auto Power On

You can turn on the TV and set it to video mode automatically whenever you play a tape.
For details, refer to the instruction manual for your TV.

VCR Auto Standby

You can use your TV's remote control to turn off the recorder.
For details, refer to the instruction manual for your TV.

Direct Rec

You can start recording the programme that you are watching on your TV with simple operation. Press and hold **RECORD** and press **PLAY** on the remote control, or press **RECORD** on the recorder.
Follow the procedure below to use this function.

1 TURN ON THE RECORDER

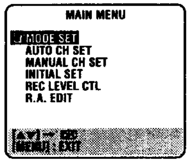
Press ⏻/I.

2 ACCESS MAIN MENU SCREEN

Press **MENU**.

3 ACCESS MODE SET SCREEN

Press △▽ to move the highlight bar (pointer) to "MODE SET", then press **OK** or ▷.

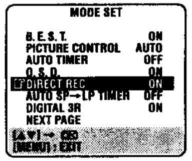

MAIN MENU

☞MODE SET
AUTO CH SET
MANUAL CH SET
INITIAL SET
REC LEVEL CTL
R.A. EDIT

[▲▼] → OK
[MENU] : EXIT

4 SELECT DIRECT REC MODE

Press △▽ to move the highlight bar (pointer) to "DIRECT REC", then press **OK** or ▷ to set to "ON".


MODE SET

B.E.S.T. ON
PICTURE CONTROL AUTO
AUTO TIMER OFF
O.S.D. ON
☞DIRECT REC ON
AUTO SP→LP TIMER OFF
DIGITAL 3R ON
NEXT PAGE

[▲▼] → OK
[MENU] : EXIT

5 RETURN TO NORMAL SCREEN

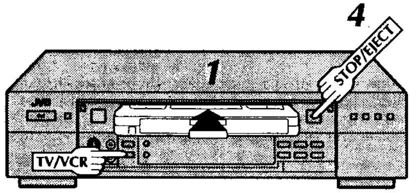
Press **MENU**.

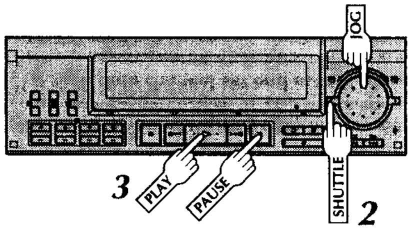
NOTES:

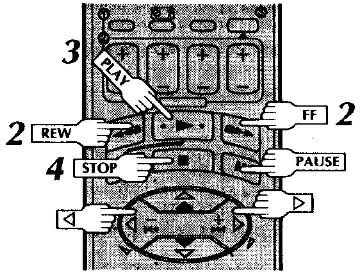
- *If "DIRECT REC" is set to "OFF", the **RECORD** button functions as described in "Recording" (☞ pg. 14).*
- *During the Direct Rec, "– –" appears on the display panel.*
- *When you perform T-V LINK functions, be sure to use a fully-wired 21-pin SCART cable.*
- *Retake function does not work during Direct Rec (☞ pg. 50).*
- *Direct Rec is not possible with a scrambled broadcast.*
- *To record a scrambled broadcast, set "DIRECT REC" to "OFF" and follow the procedure described in "Recording" on page 14.*

Playback

Turn on the TV and select the VIDEO channel (or AV mode).



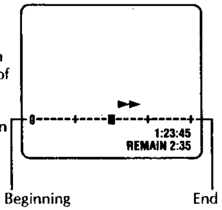




Tape Position Indicator

The tape position indicator appears on screen when, from the Stop mode, you press **FF**, **REW** or perform an Index Search. The position of "■" in relation to "0" (beginning) or "+" (end) shows you where you are on the tape.

"O.S.D." (☞ pg. 47) must be set to "ON", or the indicator will not appear.



NOTE:

Depending on the type of tape used, there may be times when the indication is not correct.

The easiest, most basic operation possible with your video recorder is tape playback. Already-recorded signals on a video tape are read by your video recorder and displayed on your TV just like a TV programme.

1 LOAD A CASSETTE

Make sure the window side is up, the rear label side is facing you and the arrow on the front of the cassette is point toward the recorder. Don't apply too much pressure when inserting.

- The recorder power comes on automatically and the counter is reset to 0:00:00.
- If the record safety tab has been removed, playback begins automatically.

2 FIND PROGRAMME START POINT

If the tape is advanced past the start point, press **REW** or turn the **SHUTTLE** ring to the left.
To go forward, press **FF** or turn the **SHUTTLE** ring to the right.

3 START PLAYBACK

Press **PLAY**. "BEST" appears blinking in the recorder's display panel during automatic tracking (☞ pg. 22).

- Playback picture quality of LP recordings will not be as high as SP recordings.

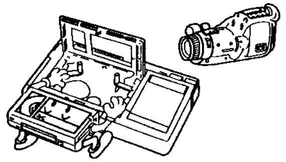
4 STOP PLAYBACK

Press **STOP** on the remote or **STOP/EJECT** on the recorder's front panel. Then press **STOP/EJECT** to remove the cassette.

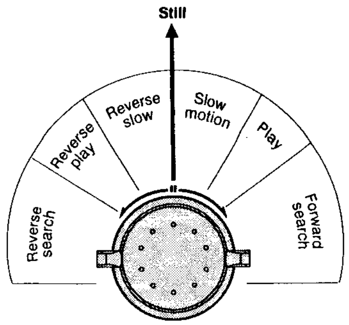
INFORMATION

When using the AV connection (☞ pg. 6), initiating playback causes the VCR indicator to light and the TV to automatically enter AV mode. To return the TV to TV mode after playback is complete, press **TV/VCR** so that the VCR indicator turns off.
* Depending on the type of TV used, **TV/VCR** button does not function as described above.

Usable cassettes



- Compact VHS camcorder recordings can be played on this video recorder. Simply place the recorded cassette into a VHS Cassette Adapter and it can be used just like any full-sized VHS cassette.
- This video recorder can record on regular VHS and Super VHS cassettes. While only VHS signals can be recorded on regular VHS cassettes, both VHS and Super VHS signals can be recorded and played back using Super VHS cassettes.



NOTES:

- *Refer to the* ***SHUTTLE*** *ring illustration above as you read the following procedures.*
- *Reverse playback is possible only with a tape recorded in SP mode.*

Still Picture/Frame-By-Frame Playback

1 PAUSE DURING PLAYBACK

Press **PAUSE**.

- During still picture, the sound from the previous 3 seconds (approx.) will be played back repeatedly (provided there was at least 6 seconds of normal playback prior to engaging the still picture mode).
- "TIME SCAN AUDIO" must be set to "ON", or the sound will not be heard. (☞ pg. 27)

2 ACTIVATE FRAME-BY-FRAME PLAYBACK

Turn the **JOG** dial to the right for forward frame-by-frame playback, or to the left for reverse frame-by-frame playback.

OR

Press **PAUSE**.

OR

Press ◁ or ▷.

To resume normal playback, press **PLAY**.

ATTENTION

- The operations by **JOG** dial/**SHUTTLE** ring do not include TimeScan (☞ pg. 26).
- In the high-speed search, still, slow-motion or frame-by-frame playback mode,
  - the picture will be distorted.
  - noise bars will appear.
  - there will be a loss of colour with a tape recorded in LP mode.
- Picture may not appear during high-speed search with a tape recorded in LP mode.
- When normal playback resumes from search, still, slow motion or frame-by-frame playback, the picture may jitter vertically momentarily depending on the type of TV being used.

Slow Motion

1 ACTIVATE SLOW-MOTION PLAYBACK

During playback or still, turn the **SHUTTLE** ring to the right for forward slow motion, or to the left for reverse slow motion (refer to the illustration to the left).

OR

During still picture, press and hold **PAUSE** for 2 seconds, then release. Press and release again to return to still picture.

OR

During still picture, press and hold ◁ or ▷. Release to return to still picture.

To resume normal playback, press **PLAY**.

NOTE:

For Time Jog, see page 27.

High-Speed (Turbo) Search

1 ACTIVATE HIGH-SPEED SEARCH

During playback or still, turn the **SHUTTLE** ring all the way to the right for forward high-speed search, or to the left for reverse high-speed search. Releasing **SHUTTLE** resumes still picture playback.

OR

During playback or still, press **FF** for forward high-speed search, or **REW** for reverse high-speed search.

To resume normal playback, press **PLAY**.

NOTE:

For short searches, press and hold ***FF*** *or* ***REW*** *during playback or still picture. When released, normal playback resumes.*

Variable-Speed Search

1 ACTIVATE VARIABLE-SPEED SEARCH

During playback or still, turn the **SHUTTLE** ring to the right for forward variable-speed search, or to the left for reverse variable-speed search (refer to the illustration above).

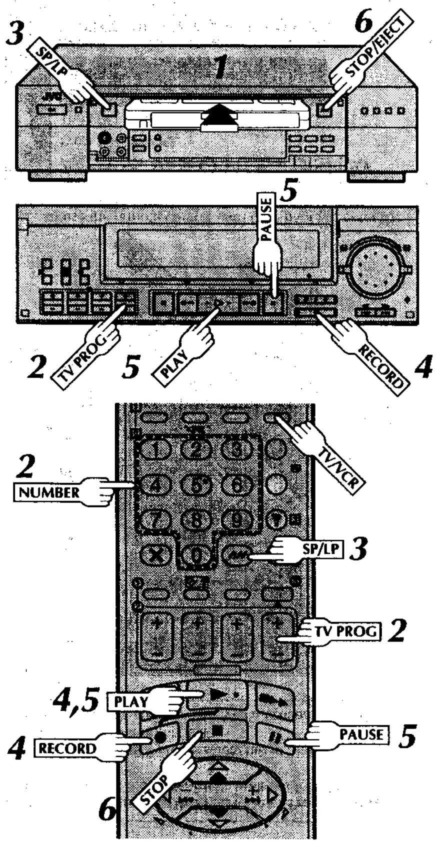
To resume normal playback, press **PLAY**.

NOTE:

Variable-speed search with TimeScan (☞ pg. 26) can be used by pressing the remote control's ◁ or ▷ button.

Recording

Turn on the TV and select the VIDEO channel (or AV mode).



INFORMATION

When using the AV connection (☞ pg. 6), you can switch between TV mode and AV mode by pressing **TV/VCR**.
* Depending on the type of TV used, **TV/VCR** button does not function as described above.

Recording Resume Function

If there is a power outage during recording (or Instant Timer Recording or timer recording), the recording will resume automatically when power is restored to the recorder unless the recorder's memory backup has expired.

TV signals being received by the recorder's built-in tuner can be recorded onto a video tape. You can "capture" a TV programme using your video recorder.

1 LOAD A CASSETTE

Insert a cassette with the record safety tab intact (See below).

- The counter is reset to 0:00:00 and the recorder power comes on automatically.

2 CHOOSE A PROGRAMME

Press **TV PROG +/–** or the **NUMBER** keys to select the preset you wish to record.

3 SET TAPE SPEED

Press **SP/LP** (**///**). Check the SP/LP indicator on the recorder display panel to confirm the selected tape speed.

- Picture quality of LP recordings will not be as high as on SP recordings.

4 START RECORDING

Press and hold **RECORD** and press **PLAY** on the remote control, or press **RECORD** on the recorder.

B.E.S.T. takes place at the beginning of both the first SP and the first LP recording after inserting the cassette (☞ pg. 22).

If "DIRECT REC" is set to "ON", the programme that appears on the TV screen will be recorded (☞ pg. 11).

- You can not change the preset whilst recording is in progress. To change the preset, see step 5.

5 PAUSE/RESUME RECORDING

Press **PAUSE**. Press **PLAY** to resume recording.

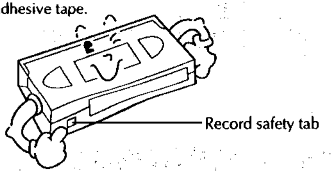
- During the Record Pause mode, you can change the preset by pressing the **TV PROG +/–** buttons or the **NUMBER** keys.

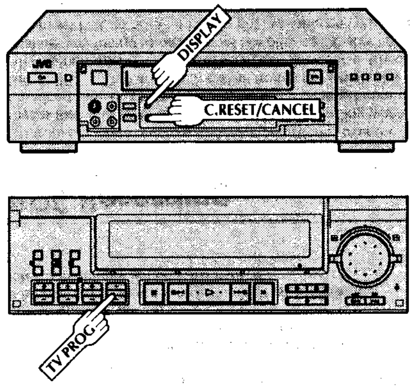
6 STOP RECORDING

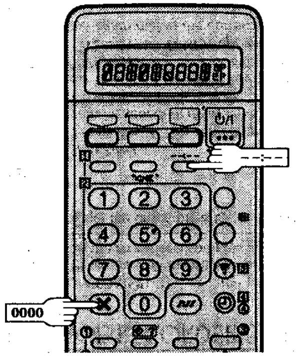
Press **STOP** on the remote control or **STOP/EJECT** on the recorder. Then press **STOP/EJECT** to remove the cassette.

Accidental erasure prevention

- To prevent accidental recording on a recorded cassette, remove its safety tab. To record on it later, cover the hole with adhesive tape.







Tape Remaining Time

1 DISPLAY REMAINING TIME

Press – –:– – (or **DISPLAY**) until the time remaining on the tape appears.

- The display panel shows the tape remaining time with "◣" displayed.
- By pressing the – –:– – (or **DISPLAY**) button, you can change the display to show the counter reading, preset position*, clock time or tape remaining time.
  ** Preset position is not displayed during playback.*

NOTE:

Depending on the type of tape used, there may be times when the tape remaining time reading may not appear right away, or is not correct. "– –:– –" may sometimes appear, or the display may blink on occasion.

Record One Programme While Watching Another

1 SELECT PRESET TO WATCH

Once recording is in progress, all you need to do is to set the preset controls on the TV for the station you wish to view.

- The programme selected with the TV's preset controls appears on the TV screen while the one selected with the recorder's **TV PROG** buttons is recorded on the tape.

Elapsed Recording Time Indication

You can check the exact time of a recording.

1 SET COUNTER DISPLAY

Press – –:– – (or **DISPLAY**) until a counter reading appears on the dispay panel.

2 RESET COUNTER

Press **0000** (or **C.RESET/CANCEL**) before starting recording or playback.

- The counter is reset to "0:00:00" and shows the exact elapsed time as the tape runs.

Instant Timer Recording (ITR)

This easy method allows you to record for any length of time from 30 mins. to 6 hours (selectable in 30-min. increments), and shuts off the recorder after recording is finished.

1 START RECORDING

Press **RECORD** on the recorder.

2 ENGAGE ITR MODE

Press **RECORD** again. "○" blinks and 0:30 appears on the front display panel.

3 SET RECORDING DURATION

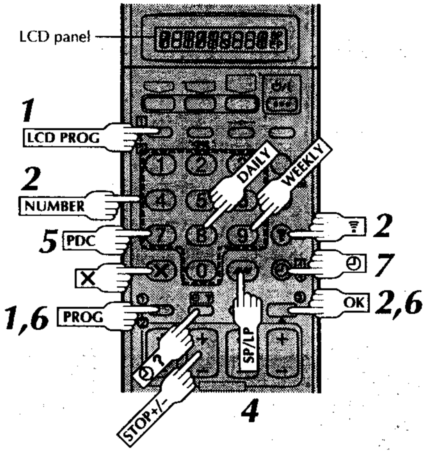
If you want to record for more than 30 minutes, press **RECORD** to extend the time. Each press extends recording time by 30 minutes.

NOTE:

*You can only perform ITR using the **RECORD** button on the recorder's front panel.*

VIDEO Plus+ Timer Programming

Before performing VIDEO Plus+ Timer Programming:
- Make sure that the recorder's built-in clock is set properly.
- Insert a cassette with the safety tab in place. The recorder will come on automatically.
- Turn on the TV and select the VIDEO channel (or AV mode).



You can use the remote control with LCD panel to enter the PlusCode number.

1 ACCESS VIDEO PLUS+ DISPLAY

Press **LCD PROG**.

The LCD panel looks like this:

2 ENTER PLUSCODE NUMBER

Press the **NUMBER** keys to enter the PlusCode number of a programme you wish to record, then press Ŧ.

- If you make a mistake, press X and input the correct number.

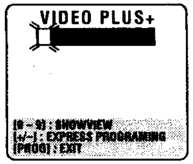
The PlusCode number you enter appears on the LCD panel:

Then go to step **3** in the right column.

With VIDEO Plus+, timer programming is greatly simplified because each TV programme has a corresponding code number which your recorder is able to recognise.

1 ACCESS VIDEO PLUS+ SCREEN

Press **PROG**.

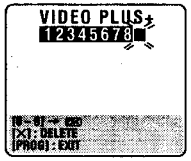


The front display panel looks like this:

2 ENTER PLUSCODE NUMBER

Press the **NUMBER** keys to enter the PlusCode number of the programme you wish to record, then press **OK**.

- If you make a mistake, press X and input the correct number.

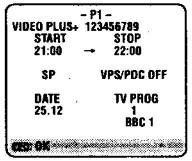


The PlusCode number you enter appears on the front display panel:

The display panel shows only a 4-digit number.

3 ACCESS VIDEO PLUS+ PROGRAM SCREEN

The VIDEO Plus+ Program screen appears (if you're just starting out, "P1" appears).



The display panel shows the programme start time. Pressing ⏲ **?** changes the display to the programme stop time, then the date and preset position.

IMPORTANT
Make sure the preset position number you wish to record is displayed; if not, see "VIDEO Plus+ Setup" on page 62 and set the Guide Program number for that PlusCode number correctly.

- If the number you entered is invalid, "ERROR" appears on the screen and "Err" appears on the display panel. Press X and input a valid PlusCode number.
- If the "GUIDE PROG SET" screen appears, see "ATTENTION – Regarding Guide Program Number Set" on page 17.

4 SET TAPE SPEED

Press **SP/LP (/I//)** to set the tape speed.

5 SET PDC MODE

Press **PDC** to select "ON" or "OFF".
If "VPS/PDC ON" is displayed on the screen or "VPS/PDC" is lit on the display panel, PDC is set to ON.
If "VPS/PDC OFF" is displayed on the screen or "VPS/PDC" is not lit on the display panel, PDC is set to OFF.
☞ "PDC Recording" in the column below.

- VPS (Video Programme System) recording is not currently available in the U.K. and not possible with this recorder.

6 RETURN TO NORMAL SCREEN

Press **PROG** or **OK**. "PROGRAM COMPLETED" appears on the screen for about 5 seconds, then normal screen appears.

- Repeat steps **1 – 6** for each additional programme.

7 ENGAGE RECORDER'S TIMER MODE

Press ⏲ (or ⏲**TIMER**). The recorder turns off automatically and ⏲ appears on the display panel. The ⏲**TIMER** indicator on the recorder also lights up.

- To disengage the timer, press ⏲ (or ⏲**TIMER**) again.

NOTES:

- *To Change The Stop Time . . .*
  *. . . press **STOP +/–** in step **3**. You can compensate for anticipated programme schedule delays this way.*
- *To Timer-Record Weekly Or Daily Serials . . .*
  *. . . in step 3, press **WEEKLY (NUMBER** key "9") for weekly serials or **DAILY (NUMBER** key "8") for daily serials (Monday – Friday). Either "WEEKLY" or "DAILY" appears on the screen. Pressing the button again makes the corresponding indication disappear.*
- *You can programme this recorder to timer-record as many as 8 programmes. If you try to programme the recorder to record a ninth, "PROGRAM FULL" appears on screen and "FULL" appears on the front display panel. To record the extra programme, you must first cancel any unnecessary programmes (☞ pg. 20).*
- *It is not possible to timer-record a TV programme with a PlusCode number which starts with "0".*

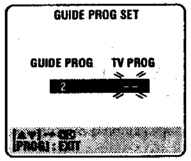
Satellite Receiver Users
To timer-record a satellite broadcast using VIDEO Plus+:
[1] Set "AV2 SELECT" to the appropriate mode. (☞ pg. 40)
[2] Perform steps **1 – 7**.
[3] Set the satellite receiver to the appropriate channel before the selected programme begins.
[4] Leave the satellite receiver's power on.

ATTENTION

Regarding Guide Program Number Set

"GUIDE PROG SET" appears after performing step **3** if the Guide Program number for the PlusCode number you entered has not been set.

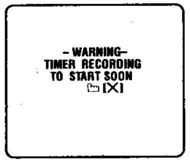
- Press the **NUMBER** keys or △▽ to input the preset position number on which your recorder receives that station, then press **OK** or ▷ to set the Guide Program Number. The VIDEO Plus+ Program screen appears.



(Ex.) To timer-record a BBC2 programme with VIDEO Plus+.
* If your recorder receives BBC2 on the preset position 2, press **OK** or ▷ after entering "2".

Timer Warning

If you have programmed your recorder to timer-record a programme or a series of programmes, a warning appears on the screen to tell you that the recording is due to start in 5 minutes.



NOTES:

- *The warning only appears if you're not in the Timer mode at the time.*
- *If this recorder is being used as the player for tape dubbing, the warning screen will be recorded on the tape in the other video recorder.*

The warning blinks for the entire 5 minutes leading up to the start of timer recording. To clear the display, press X.

PDC Recording

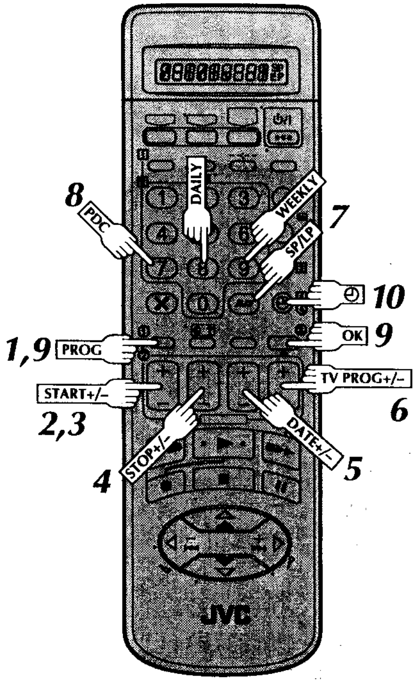
Now available from some TV stations, PDC (Programme Delivery Control) is a service designed to assure safe, accurate timer recording. With this system, special code signals are transmitted together with the audio/video signals. These code signals control your video recorder and have precedence over the advertised times which you may have preset into the timer. This means that your recorder will start and stop recording when the preset TV programmes actually start and end — even if the broadcast time of a preset TV programme is changed from what has been advertised. PDC is currently available nationally on BBC1, BBC2, Ch.4 and Ch.5, except from a few small relay transmitters. Ch.3 operates a PDC service only in a very few areas. All channels intend to offer this service in due course. Check your TV programme listing guide for latest information. If the channel you intend to record does not offer a PDC service your recorder will not start recording if PDC has been selected. Be sure to set PDC to "OFF" if PDC is not available on your selected channel (☞ step **5** above).

NOTES:

- *PDC recording is also possible when a satellite receiver or a cable system is connected to AV2 IN/DECODER on your recorder.*
- *PDC recording is also possible via the AV1 IN/OUT connector.*

Express Timer Programming

Before performing Express Timer Programming:
- Make sure that the recorder's built-in clock is set properly.
- Insert a cassette with the safety tab in place. The recorder will come on automatically.
- Turn on the TV and select the VIDEO channel (or AV mode).



If you don't know the PlusCode number for the programme you wish to record, use the following procedure to set your recorder to timer-record the programme.

1

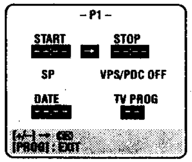
ACCESS VIDEO PLUS+ SCREEN

Press **PROG**.

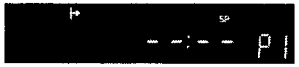
2

ACCESS PROGRAMME SCREEN

Press **START +/–**. (If you're just starting out, "P1" appears.)



The front display panel looks like this:

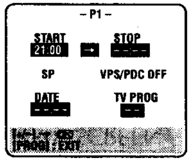


3

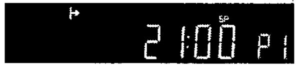
ENTER PROGRAMME START TIME

Press **START +/–** to enter the time you want recording to start.

- Press and hold **START +/–** to move in 30-minute increments, or press and release repeatedly to move 1 minute at a time.



The front display panel looks like this:



4

ENTER PROGRAMME STOP TIME

Press **STOP +/–** to enter the time you want recording to stop.

- Press and hold **STOP +/–** to move in 30-minute increments, or press and release repeatedly to move 1 minute at a time.

5

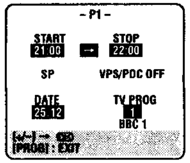
ENTER PROGRAMME DATE

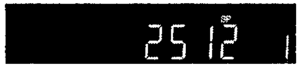
Press **DATE +/–** to enter the date on which you wish to record. (The current date first appears on screen. The date you enter will appear in its place.)

6

ENTER PRESET POSITION

Press **TV PROG +/–** to enter the preset position corresponding to the broadcasting station you wish to record.





7

SET TAPE SPEED

Press **SP/LP (▶)** to set the tape speed.

8

SET PDC MODE

Press **PDC** to select "ON" or "OFF".
If "VPS/PDC ON" is displayed on the screen or "VPS/PDC" is lit on the display panel, PDC is set to ON.
If "VPS/PDC OFF" is displayed on the screen or "VPS/PDC" is not lit on the display panel, PDC is set to OFF.
☞ "PDC Recording" in the right column.

- VPS (Video Programme System) recording is not currently available in the U.K. and not possible with this recorder.

9

RETURN TO NORMAL SCREEN

After confirming all information is correct, press **PROG** or **OK**. "PROGRAM COMPLETED" appears on the screen for about 5 seconds, then normal screen appears.

- Repeat steps **1** – **9** for each additional programme.

10

ENGAGE RECORDER'S TIMER MODE

Press ⊕ (or ⊕**TIMER**). The recorder turns off automatically and ⊕ appears on the display panel. The ⊕**TIMER** indicator on the recorder also lights up.

- To disengage the timer, press ⊕ (or ⊕**TIMER**) again.

To Timer-Record Weekly Or Daily Serials . . .
. . . anytime during steps **2** through **9**, press **WEEKLY** (**NUMBER** key "9") for weekly serials or **DAILY** (**NUMBER** key "8") for daily serials (Monday – Friday). Either "WEEKLY" or "DAILY" appears on the screen. Pressing the button again makes the corresponding indication disappear.

NOTE:

You can programme this recorder to timer-record as many as 8 programmes. If you try to programme the recorder to record a ninth, "PROGRAM FULL" appears on screen and "FULL" appears on the front display panel. To record the extra programme, you must first cancel any unnecessary programmes (☞ pg. 20).

Satellite Receiver Users
To timer-record a satellite broadcast using Express Timer Programming:
1. Set "AV2 SELECT" to the appropriate mode. (☞ pg. 40)
2. Perform steps **1** – **10**. Enter "L-2" for the preset position in step **6**.
3. Set the satellite receiver to the appropriate channel before the selected programme begins.
4. Leave the satellite receiver's power on.

PDC Recording

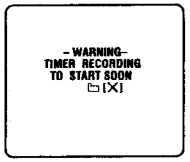
Now available from some TV stations, PDC (Programme Delivery Control) is a service designed to assure safe, accurate timer recording. With this system, special code signals are transmitted together with the audio/video signals. These code signals control your video recorder and have precedence over the advertised times which you may have preset into the timer. This means that your recorder will start and stop recording when the preset TV programmes actually start and end — even if the broadcast time of a preset TV programme is changed from what has been advertised. PDC is currently available nationally on BBC1, BBC2, Ch.4 and Ch.5, except from a few small relay transmitters. Ch.3 operates a PDC service only in a very few areas. All channels intend to offer this service in due course. Check your TV programme listing guide for latest information. If the channel you intend to record does not offer a PDC service your recorder will not start recording if PDC has been selected. Be sure to set PDC to "OFF" if PDC is not available on your selected channel.
(☞ step **8** in the left column).

NOTES:

- *Set the start time (PDC time) exactly as advertised in the TV listing. A different time than advertised will result in no recording.*
- *PDC recording is also possible when a satellite receiver or a cable system is connected to AV2 IN/DECODER on your recorder.*
- *PDC recording is also possible via the AV1 IN/OUT connector.*

Timer Warning

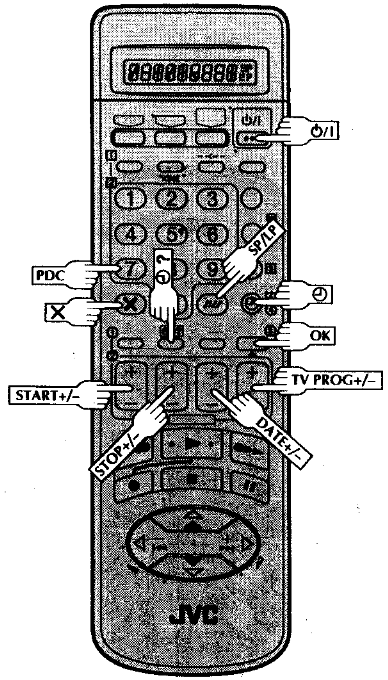
If you have programmed your recorder to timer-record a programme or a series of programmes, a warning appears on the screen to tell you that the recording is due to start in 5 minutes.



NOTES:

- *The warning only appears if you're not in the Timer mode at the time.*
- *If this recorder is being used as the player for tape dubbing, the warning screen will be recorded on the tape in the other video recorder.*

The warning blinks for the entire 5 minutes leading up to the start of timer recording. To clear the display, press X.



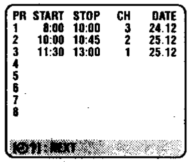
Check, Cancel And Replace Programmes

1 DISENGAGE TIMER MODE

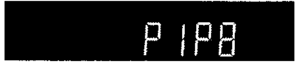
Press ⊕ (or ⊕**TIMER**), then press ⏻/I.

2 ACCESS PROGRAMME CHECK SCREEN/DISPLAY

Press ⊕ **?**.

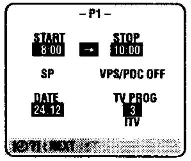


```
PR START  STOP  CH  DATE
1   8:00 10:00   3 24.12
2  10:00 10:45   2 25.12
3  11:30 13:00   1 25.12
4
5
6
7
8
```

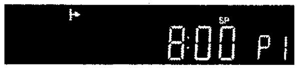


3 ACCESS PROGRAMME SCREEN/ DISPLAY

Press ⊕ **?** again to check more information. Each time you press ⊕ **?**, the next programme's information appears.



```
        – P1 –
START        STOP
 8:00   →   10:00
SP      VPS/PDC OFF
DATE       TV PROG
24.12         3
             ITV
```



- The display panel shows the programme start time. Pressing **OK** changes the display to the programme stop time, then the date and the preset position.

To cancel or replace a programme...

4 CANCEL OR REPLACE A PROGRAMME

Press X (or **C.RESET/CANCEL**) to cancel a programme. To replace a programme, press the appropriate button: **START+/–, STOP+/–, DATE+/–, TV PROG+/–, SP/LP (////), PDC**.

5 RETURN TO NORMAL SCREEN/ DISPLAY

Press ⊕ **?** as many times as necessary. If there are still some programmes to be recorded, go on to step **6**.

6 RETURN TO TIMER MODE

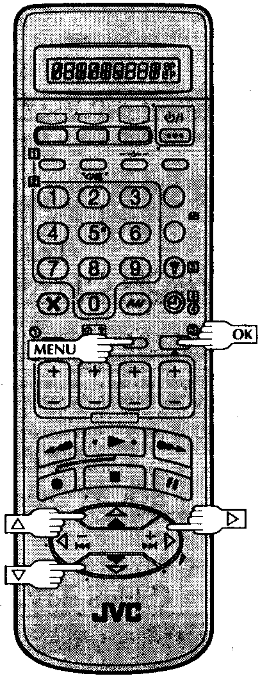
Press ⊕ (or ⊕**TIMER**).

NOTE:

You can also check the programmes on the display panel even if the recorder's power is off (unless the recorder is in the Power Save mode ☞ pg. 48) or the recorder is in the Timer mode; however, it is not possible to cancel or replace the programmes.

Recording According To Tape Type

Turn on the TV and select the VIDEO channel (or AV mode).



S-VHS (Super VHS) and VHS

Your recorder can record in either S-VHS or VHS.

To record in S-VHS:
Perform the steps **1 – 4** below to set "S-VHS" to "AUTO".
Then, insert a cassette marked "S-VHS", the S-VHS indicator will light on the display panel.
The S-VHS recording mode will be selected.

To record in VHS:
Insert a cassette marked "VHS".
The VHS recording mode will be automatically selected regardless of the S-VHS mode setting.

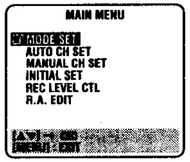
To record in VHS on an S-VHS cassette:
Insert the cassette marked "S-VHS", the S-VHS indicator will light on the display panel.
Then, perform the steps **1 – 4** below to set the "S-VHS" to "OFF"; the S-VHS indicator will go out.
The VHS recording mode will be selected.

1 ACCESS MAIN MENU SCREEN

Press **MENU**.

2 ACCESS MODE SET SCREEN

Move the highlight bar (pointer) to "MODE SET" by pressing △▽, then press **OK** or ▷.

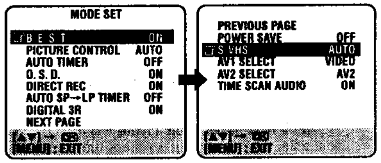


```
MAIN MENU

MODE SET
AUTO CH SET
MANUAL CH SET
INITIAL SET
REC LEVEL CTL
R.A. EDIT
```

3 SELECT S-VHS MODE

Move the highlight (pointer) to "S-VHS" by pressing △▽, then press **OK** or ▷ to select "AUTO" or "OFF".



```
MODE SET

B E S T                ON
PICTURE CONTROL      AUTO
AUTO TIMER            OFF
O. S. D.               ON
DIRECT REC             ON
AUTO SP→LP TIMER      OFF
DIGITAL 3R             ON
NEXT PAGE
```

```
PREVIOUS PAGE
POWER SAVE            OFF
S-VHS                AUTO
AV1 SELECT          VIDEO
AV2 SELECT            AV2
TIME SCAN AUDIO        ON
```

4 RETURN TO NORMAL SCREEN

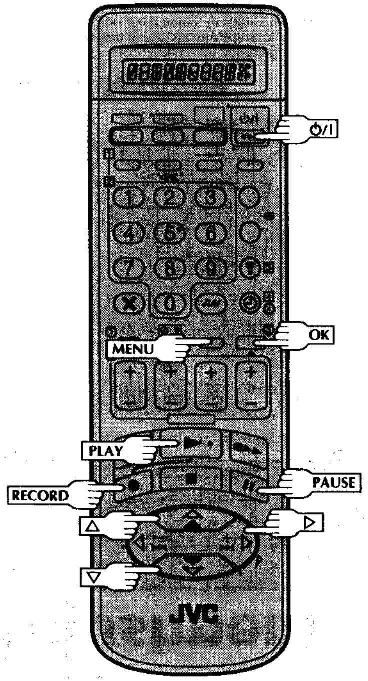
Press **MENU**.

NOTE:

When playing back a tape that has been recorded in S-VHS, the S-VHS indicator lights on the display panel regardless of the "S-VHS" mode setting.

Playback/ Recording According To Tape Characteristics

Turn on the TV and select the VIDEO channel (or AV mode).



The ⏻/I, **PLAY**, **RECORD**, and **PAUSE** buttons on the recorder have the same function as those on the remote control.

B.E.S.T. Picture System

The B.E.S.T. (Biconditional Equalised Signal Tracking) system checks the condition of the tape in use during recording and playback, and compensates to provide the highest-possible recording and playback pictures. The default setting for both recording and playback is "ON".

1 TURN ON THE RECORDER

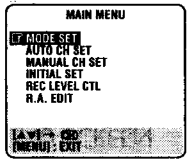
Press ⏻/I.

2 ACCESS MAIN MENU SCREEN

Press **MENU**.

3 ACCESS MODE SET SCREEN

Press △▽ to move the highlight bar (pointer) to "MODE SET", then press **OK** or ▷.



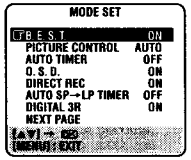
MAIN MENU

☞MODE SET
AUTO CH SET
MANUAL CH SET
INITIAL SET
REC LEVEL CTL
R.A. EDIT

[▲▼] → OK
[MENU] : EXIT

4 SELECT B.E.S.T. MODE

Press △▽ to move the highlight bar (pointer) to "B.E.S.T.", then press **OK** or ▷ to set to "ON" or "OFF".



MODE SET

☞B. E. S. T.	ON
PICTURE CONTROL	AUTO
AUTO TIMER	OFF
O. S. D.	ON
DIRECT REC	ON
AUTO SP→LP TIMER	OFF
DIGITAL 3R	ON
NEXT PAGE	

[▲▼] → OK
[MENU] : EXIT

5 RETURN TO NORMAL SCREEN

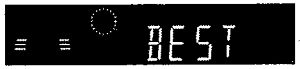
Press **MENU**.

Recording

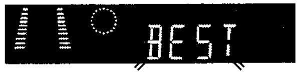
1 START RECORDING

Press and hold **RECORD** and press **PLAY** on the remote, or press **RECORD** on the recorder.

DURING B.E.S.T.



B.E.S.T. COMPLETE



- The recorder spends approximately 7 seconds assessing the condition of the tape, then begins recording.

NOTES:

- *The B.E.S.T. system works for both SP and LP modes only after a tape has been inserted and the Record mode is first initiated. It does not work during recording.*
- *The B.E.S.T. system does not work while Auto Satellite Prog recording is in progress (☞ pg. 30).*
- *In the case of timer recording, the B.E.S.T. system works before recording is initiated.*
- *Once the cassette is ejected, the B.E.S.T. data is cancelled. The next time the cassette is used for recording, B.E.S.T. is re-performed.*
- *Pressing the recorder's **RECORD** button while "BEST" is displayed does not start Instant Timer Recording (☞ pg. 15).*

ATTENTION

*Since the B.E.S.T. system works before recording actually starts, there is a delay of approximately 7 seconds after **RECORD** and **PLAY** on the remote are pressed, or **RECORD** on the recorder is pressed. To make sure you record the desired scene or programme in its entirety, first perform the following steps:*

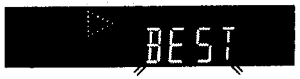
1) *Press and hold **PAUSE** and press **RECORD** to engage the RECORD PAUSE mode.*
   - *The recorder then automatically checks the condition of the tape and, after approximately 7 seconds, re-enters RECORD PAUSE.*
2) *Press **PLAY** when you are ready to start recording.*
   - *If you want to bypass the B.E.S.T. system and begin recording immediately, set "B.E.S.T." to "OFF" in step **4** on page 22.*

Playback

The recorder assesses the quality of the tape once you initiate playback.

1 START PLAYBACK

Press **PLAY**.

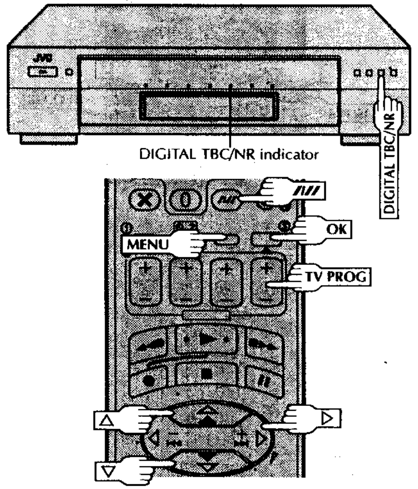


- The recorder adjusts the playback picture quality based on the quality of the tape in use.
- B.E.S.T. is active during Auto Tracking. "BEST" appears blinking on the recorder's display panel.

NOTES:

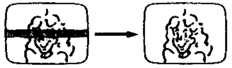
- *When watching a tape recorded with "B.E.S.T." set to "ON", it is recommended that you leave B.E.S.T. on during playback as well.*
- *When watching a rental tape or one recorded on another video recorder, or when using this recorder as the player for editing, set B.E.S.T. to your preference by performing steps **1** through 5 on page 22.*
- *"BEST" only appears at the beginning of automatic tracking. Even though it doesn't appear after that, the B.E.S.T. function is operative.*

Playback Picture Adjustment



Manual Tracking

Your video recorder is equipped with automatic tracking control. For most tapes this will automatically adjust the tracking to suit the particular tape you are playing. In some circumstances it may be necessary to make manual tracking adjustments. This is usually only associated with old or worn tapes or recordings made on old or worn recorders. If the automatic tracking control fails to operate correctly you will see noise bars across the picture as shown on the left below. To correct this you can override the automatic control and adjust the tracking manually by pressing the **TV PROG** buttons.



1 OVERRIDE AUTOMATIC TRACKING

Press **///** on the remote to engage manual tracking.

2 ADJUST TRACKING MANUALLY

Press **TV PROG** + or – to adjust tracking.

3 RETURN TO AUTOMATIC TRACKING

Press **///** on the remote to re-engage automatic tracking.

NOTE:

When a new tape is inserted, the recorder returns to the automatic tracking mode automatically.

Digital TBC/NR

Your video recorder is equipped with the Digital TBC (Time Base Corrector) that removes jitter from fluctuating video signals to deliver a stable picture even with old tapes and rental cassettes.
The on/off of Digital 3-DNR (Noise Reduction) which cuts noise and enables clear picture reproduction is also linked to this function.
* The default setting is "ON".

We recommend that you use the Digital TBC feature when...
... playing back a tape recorded on a camcorder.
... playing back a tape repeatedly used.
... using this video recorder as the player for editing.

1 ACTIVATE DIGITAL TBC/NR

Press **DIGITAL TBC/NR** so that the DIGITAL TBC/NR indicator lights up.

- To turn off DIGITAL TBC/NR, press **DIGITAL TBC/NR** again so that the indicator goes off.

NOTES:

- *If you play back a tape recorded under poor TV reception condition, there may be cases where the picture becomes more stable with Digital TBC/NR set to off.*
- *When Digital TBC/NR is set to on, if you play back a tape where certain types of signals are recorded (using a PC or some character generators), the playback picture may be distorted. If this is the case, turn off Digital TBC/NR.*

Digital 3R

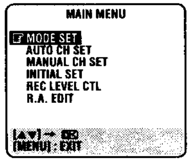
Digital 3R picture system applies edge correction to the luminance signal to enhance detail.

1 ACCESS MAIN MENU SCREEN

Press **MENU**.

2 ACCESS MODE SET SCREEN

Move the highlight bar (arrow) to "MODE SET" by pressing △▽, then press **OK** or ▷.



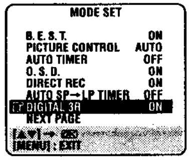
MAIN MENU

MODE SET
AUTO CH SET
MANUAL CH SET
INITIAL SET
REC LEVEL CTL
R.A. EDIT

[▲▼] → OK
[MENU] : EXIT

3 SELECT DIGITAL 3R SET MODE

Move the highlight bar (arrow) to "DIGITAL 3R" by pressing △▽, then press **OK** or ▷ to set to "ON".



MODE SET

B. E. S. T.	ON
PICTURE CONTROL	AUTO
AUTO TIMER	OFF
O. S. D.	ON
DIRECT REC	ON
AUTO SP→LP TIMER	OFF
DIGITAL 3R	ON
NEXT PAGE	

[▲▼] → OK
[MENU] : EXIT

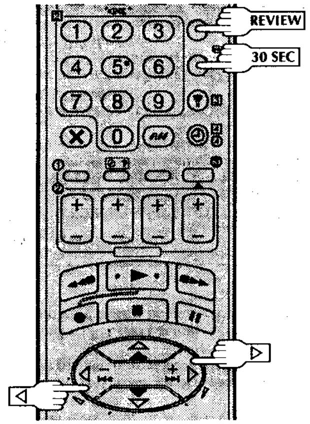
4 RETURN TO NORMAL SCREEN

Press **MENU**.

NOTES:

- *Normally it is recommendable to keep "DIGITAL 3R" set to "ON".*
- *Depending on the type of tape being used, picture quality may be better with "DIGITAL 3R" set to "OFF".*

Looking For The Scene You Want



Instant ReView

Simply by pressing a single button, the recorder power comes on, rewinds, and begins playback of the last timer-recorded programme. If you have several programmes recorded, you can easily access any of them.

NOTE:

Before starting, make sure that the recorder is off and that the Timer mode is disengaged.

1 ACTIVATE INSTANT REVIEW

Press **REVIEW**. The recorder power comes on and the recorder searches for the index code indicating the start of the last timer-recorded programme. Once it's found, playback begins automatically.

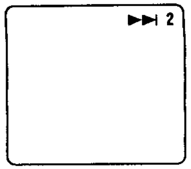
- The front display panel tells you how many programmes have been timer-recorded. If you have, for example, 3 programmes, "REVIEW" and "3" appear and blink. The REVIEW indicator on the recorder also blinks. To watch the first of the 3 programmes, press **REVIEW** three times. The recorder searches and begins playback automatically. You can access a programme as far as 9 index codes away from the current tape position.

NOTES:

- *Instant ReView is not possible while the recorder is in the Timer mode.*
- *The number of recorded programmes will not be displayed on the front display panel after Auto Satellite Prog recording (☞ pg. 30).*

Index Search

Your recorder automatically marks index codes at the beginning of each recording. Additional index codes can be added manually during playback. (See Below.) This function gives you quick access to any one of 9 index codes in either direction.



►►| 2

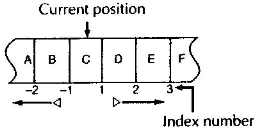
NOTE:

Before starting, make sure the recorder is in the Stop mode.

1 ACTIVATE INDEX SEARCH

Press ◁ or ▷ (|◄◄ or ►►|). "|◄◄ 1" or "►►| 1" is displayed on screen and search begins in the corresponding direction.

- To access index codes 2 through 9, press ◁ or ▷ repeatedly until the correct index number is displayed.
  Ex.: To locate the beginning of B from the current position, press ◁ twice.
  To locate the beginning of D from the current position, press ▷ once.



- When the specified index code is located, playback begins automatically.

Manual Index Mark/Erase

To mark an index code...

...during playback press **INDEX MARK** on the recorder.

- The recorder will mark an index code at that location.
- If "O.S.D." is set to "ON" (☞ pg. 47), "MARK" blinks on the screen while an index code is being marked.

To erase an index code...

...during playback or still press **INDEX ERASE** on the recorder.

- The recorder will fast-forward to the nearest index code and erase it. Playback continues after the index code is erased.
- If "O.S.D." is set to "ON" (☞ pg. 47), "ERASE" blinks on the screen while an index code is being erased.

Skip Search

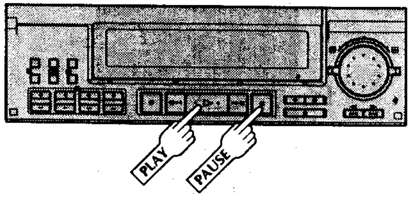
1 SKIP OVER UNWANTED SECTIONS

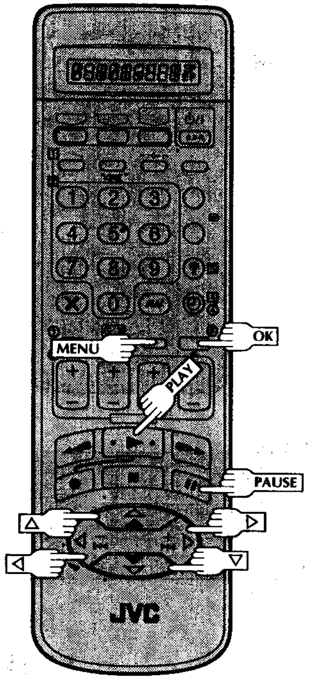
Press **30 SEC** 1 to 4 times during playback. Each press initiates a 30-second period of fast-motion playback. Normal playback resumes automatically.

NOTE:

*To return to normal playback during a Skip Search, press **PLAY**.*

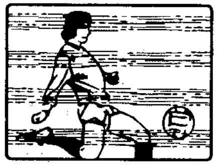
TimeScan





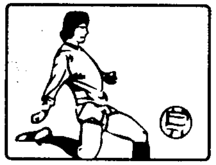
Your recorder is equipped with the TimeScan function. TimeScan allows noise free pictures to be displayed on your TV screen in the forward and reverse search modes. Audio will be played back at normal speed during the TimeScan modes (☞ pg. 27). TimeScan also allows you to view a programme in search mode while listening to the audio.

Normal recorder



Visible

Recorder with TimeScan



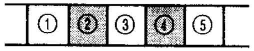
Noiseless

NOTES:

- *The "TIME SCAN AUDIO" must be set to "ON", or the sound will not be heard in TimeScan mode.*
- *The default setting for TimeScan audio is ON. (☞ pg. 27)*
- *The audio will not synchronize with the video in TimeScan modes.*
- *During 1.5x speed TimeScan the audio playback speed will also be 1.5 times normal, so dialog will sound fast-talking.*
- *In Pause mode 3 seconds (approx.) of audio will be played back repeatedly. (☞ pg. 13)*
- *In TimeScan search modes some of the audio information will not be played so that the audio can keep up with the video.*

Audio signal during TimeScan

Playback tape



Sound of ①, ③ and ⑤ is heard.
Sound of ② and ④ is not heard.
Output audio signal is normal (monaural) sound.

Variable-Speed Search/ Reverse Play

1

ACTIVATE VARIABLE-SPEED SEARCH

During playback, press ◁ or ▷.

- The more times you press, the faster the playback picture moves.
- To decrease speed, press the button for the opposite direction.
  (Refer to the chart on page 27 for playback speeds).

To resume normal playback, press **PLAY**.

TimeScan

Names of special-effects playback	Reverse								Forward								
	Search				Play	Slow-Motion (Time Jog**)		*Still	Slow-Motion (Time Jog**)		Play	Search					
Speed SP	-9x	-7x	-5x	-3x	-1x	-1/2x	-1/3x	0	1/3x	1/2x	1x	1.5x	2x	3x	5x	7x	9x
Speed LP		-7x		-3x		-1/2x		0		1/2x	1x	1.5x	2x		5x		9x
Audio output	Audio is output.					Audio is not output.		Audio is output.	Audio is output.		Audio is output.						

* To activate the Still mode from the remote control press **PAUSE** button. Still mode cannot be engaged using the remote control's ◁ ▷ button.

** Smooth slow motion delivering an uninterrupted moving image without distortion.

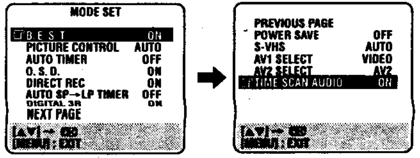
- If the picture jitters vertically, noise appears or the upper or lower part of the picture is distorded at -1/2x, -1/3x, 1/3x, 1/2x or 1.5x normal speed, use **TV PROG** + or – to correct the picture.
- Noise tends to appear at -9x or 9x normal speed during TimeScan search.
- When noise appears or the upper or lower part of the picture is distorted during TimeScan search, press **///** and adjust tracking with **TV PROG** + or – button.
- The speed is shown during TimeScan in the upper right corner of the TV screen for approx. 5 seconds. (On some TVs the display may be distorted.)
- To resume normal playback, press **PLAY**.
- Picture and audio may occasionally become distorted when the recording speed changes. If this happens, resume normal playback once, and then try using TimeScan again.
- The picture may be noisy or there may be a loss of colour when you change the playback speed. (More noise will appear with LP recordings.)
- Noise may appear or the upper part of the picture may be distorted during still, frame-by-frame playback, 2x search of LP recordings, or with certain tapes.
- Picture may appear distorted in comparison to normal playback.
- When normal playback resumes from search (including TimeScan), still, slow motion or frame-by-frame playback, the picture may jitter vertically momentarily depending on the type of TV being used.
- Depending on the tape in use, noise may appear or the upper part of the picture may be distorted.
- In TimeScan mode there will be a time lag between the video and the audio and noise may appear in the audio signal.
- TimeScan sound quality will differ in comparison to normal playback.
- When material such as music videos where there is non-stop sound (very few breaks in the soundtrack) are viewed at 1.5x or 2x normal speed, the audio playback may be faster than normal.
- Depending on the type of tape contents, the sound may not be clear during forward slow-motion playback.
- Time Jog cannot be activated by pressing **PAUSE** for longer than 2 seconds.
- When the playback direction is reversed, it takes approximately 6 seconds until sound is heard.
- TimeScan does not work with NTSC playback.
- The operations by **JOG** dial/**SHUTTLE** ring do not include TimeScan; noise will appear on the screen and audio will not be output.

If you don't want to hear TimeScan audio, set the "TIME SCAN AUDIO" to OFF. (See below)

TimeScan Audio

The audio output can be set ON/OFF during TimeScan. Select ON/OFF as required.
* The default setting is "ON".

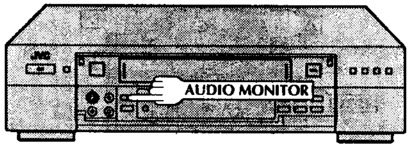
1. Press **MENU** to access the Main Menu screen.
2. Move the highlight bar (pointer) to "MODE SET" by pressing △▽, then press **OK** or ▷.
3. Move the highlight bar (pointer) to "TIME SCAN AUDIO" by pressing △▽, then press **OK** or ▷ to select "ON" or "OFF".
4. Press **MENU** to return to the normal screen.

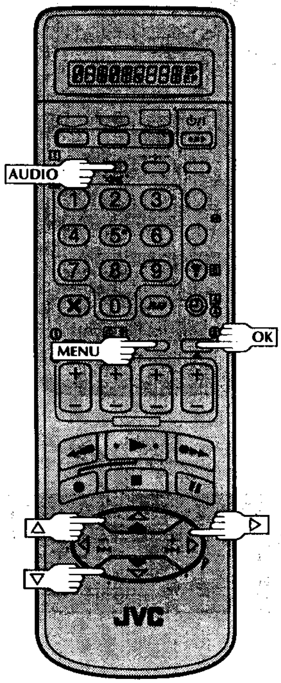


MODE SET
B.E.S.T ON
PICTURE CONTROL AUTO
AUTO TIMER OFF
O. S. D. ON
DIRECT REC ON
AUTO SP→LP TIMER OFF
DIGITAL 3R ON
NEXT PAGE
[▲▼] → OK
[MENU] : EXIT

PREVIOUS PAGE
POWER SAVE OFF
S-VHS AUTO
AV1 SELECT VIDEO
AV2 SELECT AV2
TIME SCAN AUDIO ON
[▲▼] → OK
[MENU] : EXIT

Selecting The Sound You Want





Hi-Fi Audio Recording LEVEL Control

In most cases, setting the Hi-Fi audio recording level control to the centre position will provide satisfactory results. If necessary, you can adjust the Hi-Fi audio recording level more precisely by reffering to the audio level indicator on the front panel.

1 ACCESS MAIN MENU SCREEN

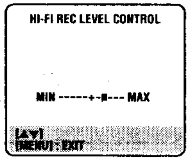
Press **MENU**.

2 ACCESS HI-FI REC LEVEL CONTROL SCREEN

Press △▽ to move the highlight bar (pointer) to "REC LEVEL CTL", then press **OK** or ▷.

3 ADJUST AUDIO RECORDING LEVEL

Press △ or ▽.



HI-FI REC LEVEL CONTROL

MIN -----+-▮--- MAX

[▲▼]
[MENU]: EXIT

- Press △ or ▽ briefly 5 times to move the on-screen's audio levels by one division on the scale. To move the audio levels faster, keep △ or ▽ pressed.
- Adjust the recording level while watching the recorder's audio level meters. Set the level so that maximum volume causes the meters to vary between 0dB to 4dB.

4 RETURN TO NORMAL SCREEN

Press **MENU**.

NOTES:

- *Noise will increase if the recording level is too low, while distortion will increase if the level is too high.*
- *When you finished Hi-Fi Audio recording, be sure to set the level control back to its centre position.*

Receiving NICAM Stereo And Bilingual Programmes

Your recorder is equipped with a Digital stereo sound decoder (NICAM), making reception of stereo and bilingual broadcasts possible.

When the recorder is tuned to a different station, the type of broadcast being received will be displayed on the TV screen for a few seconds.

Type of Broadcast Being Received	On-screen Display
Regular Monaural	(none)
NICAM Stereo	ST NICAM
NICAM Bilingual	BIL NICAM
NICAM Monaural	NICAM

- To listen to a stereo programme, press **AUDIO** (or **AUDIO MONITOR**) until "▷" and "◁" appear on the front display panel or "HI FI L ▷ ◁ R" appears on the screen.
- To listen to a bilingual programme, press **AUDIO** (or **AUDIO MONITOR**) until either "▷" or "◁" appears on the front display panel or "HI FI L ▷" or "HI FI ◁ R" appears on the screen (as required).
- To listen to the Standard (regular monaural) audio while receiving a NICAM broadcast, press **AUDIO** (or **AUDIO MONITOR**) until "NORM" appears on the front display panel or on the screen.

NOTES:

- *The NICAM audio programme will be recorded on the Hi-Fi audio track, and the Standard audio programme on the normal audio track.*
- *If the quality of stereo sound being received is poor, the broadcast will be received in monaural with better quality.*
- *Before playing back a programme recorded in stereo, or a bilingual programme, refer to "Soundtrack Selection" (See below).*
- *"O.S.D." must be set to "ON" or the on-screen displays will not appear (☞ pg. 47).*

Soundtrack Selection

Your video recorder is capable of recording three soundtracks (HI-FI L, HI-FI R and NORM) and will play back the one you select.

During Playback

Pressing **AUDIO** on the remote control (or **AUDIO MONITOR** on the recorder) changes the soundtrack being played back as follows:

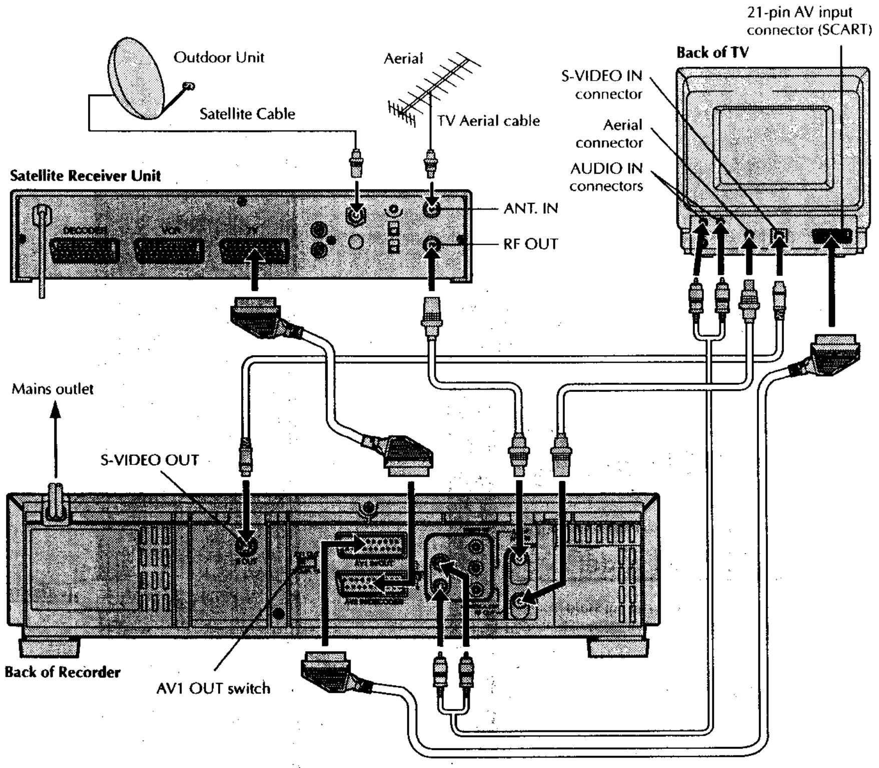
TRACK		USE
Recorder's Front Panel	On-Screen Display	
▷ + ◁	HI FI L ▷ ◁ R	For Hi-Fi stereo tapes
▷	HI FI L ▷	For main audio of Bilingual tapes
◁	HI FI ◁ R	For sub audio of Bilingual tapes
NORM	NORM	For audio-dubbed tapes
▷ + ◁ + NORM	HI FI NORM	For audio-dubbed tapes

NOTES:

- *"▷ + ◁" should normally be selected. In this mode, Hi-Fi stereo tapes are played back in stereo, and the normal audio track is played back automatically for tapes with only normal audio.*
- *For instructions on recording NICAM stereo and bilingual programmes, see above.*
- *Bilingual programmes are not currently broadcast in the U.K.*
- *"O.S.D." must be set to "ON" or the on-screen displays will not appear (☞ pg. 47).*

Automatic Satellite Programme Recording

This facility allows you to record automatically a satellite programme which is timer-programmed on your external satellite receiver. Connect a satellite receiver to the recorder's AV2 IN/DECODER connector and programme the timer on the satellite receiver; the recorder starts recording when the signals input from the satellite receiver to the AV2 IN/DECODER connector, and when there is no input signals the recorder stops recording and the power shuts off.



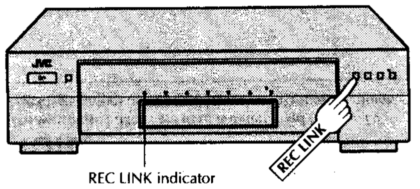
IMPORTANT

When you set "AV2 SELECT" to "SAT" (☞ pg. 40), it is possible to view a satellite broadcast with the TV set to its AV mode even if the recorder is in Timer mode; in Stop mode, recording or turned off. When the recorder is in Stop mode or recording, press **TV/VCR** on the remote control to turn off the VCR indicator on the display panel.

- *In this case, be sure to set the **AV1 OUT** switch on the rear panel to COMP.*

NOTE:

Refer to the instructions supplied with your satellite receiver.



ATTENTION

- Be sure not to turn on the satellite receiver before the programme is executed; otherwise, the recorder will start recording when the satellite receiver's power is turned on.
- If you have connected another appliance other than a satellite receiver to the AV2 IN/DECODER connector, be sure not to engage the Auto Satellite Prog Rec mode; otherwise, the recorder will start recording when the connected appliance's power is turned on.
- Auto Satellite Prog recording and timer-recording cannot be done at the same time.
- When you press and hold the recorder's **REC LINK** button to engage the Auto Satellite Prog Rec mode, if the REC LINK indicator does not light but instead blinks quickly even though your satellite receiver's power is off, Auto Satellite Prog Recording will not work properly with that satellite receiver*.
  If this is the case, perform "Express Timer Programming" (☞ pg. 18) to timer-record a satellite programme.

  **Some satellite receivers output signals even if the power is off. Auto Satellite Prog Recording is not possible with those satellite receivers.*

Before performing the following steps:

- Make sure the satellite receiver is connected to the recorder's AV2 IN/DECODER connector. (☞ pg. 30)
- Programme the timer on the satellite receiver.
- Insert a cassette with the safety tab in place.

1

ACCESS MAIN MENU SCREEN

Press **MENU**.

2

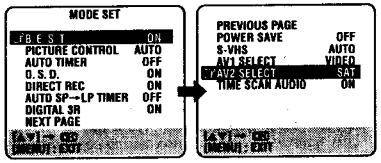
ACCESS MODE SET SCREEN

Move the highlight bar (pointer) to "MODE SET" by pressing △▽, then press **OK** or ▷.

3

SELECT AV2 SELECT MODE

Move the highlight bar (pointer) to "AV2 SELECT", by pressing △▽, then press **OK** or ▷ to set to "SAT".



MODE SET
B.E.S.T. ON
PICTURE CONTROL AUTO
AUTO TIMER OFF
O.S.D. ON
DIRECT REC ON
AUTO SP→LP TIMER OFF
DIGITAL 3R ON
NEXT PAGE
[▲▼] → OK
[MENU] : EXIT

PREVIOUS PAGE
POWER SAVE OFF
S-VHS AUTO
AV1 SELECT VIDEO
AV2 SELECT SAT
TIME SCAN AUDIO ON
[▲▼] → OK
[MENU] : EXIT

4

SET TAPE SPEED

Press **SP/LP** (**////**) to set the tape speed.

5

ENGAGE AUTO SATELLITE PROG REC MODE

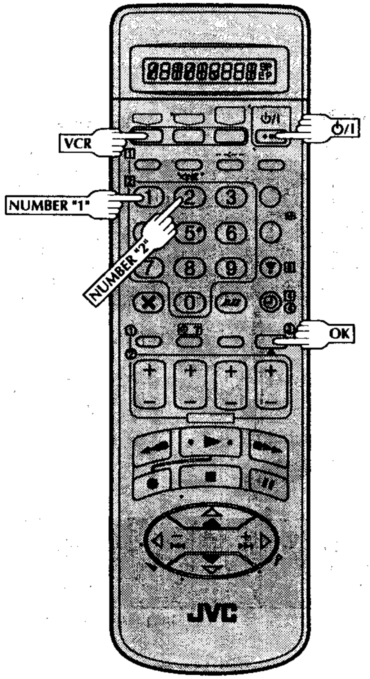
Press and hold **REC LINK** for about 2 seconds. The REC LINK indicator lights up and the recorder turns off automatically.

- To disengage the Auto Satellite Prog Rec mode, press **REC LINK**. The REC LINK indicator goes off.
- If the recorder's power is off, it is not possible to engage the Auto Satellite Prog Rec mode.

NOTES:

- *Auto Satellite Prog recording is possible with the AV2 IN/DECODER connector only.*
- *When the Auto Satellite Prog Rec mode is engaged or the recorder's power is turned off after Auto Satellite Prog recording is finished, the recorder will not enter the Timer mode even though "AUTO TIMER" is set to "ON".*
- *After Auto Satellite Prog recording, the number of recorded programmes will not be displayed on the front display panel for the Instant ReView function (☞ pg. 25).*
- *For timer programming of the satellite receiver, refer to the instruction manual of the satellite receiver.*
- *Auto Satellite Prog recording is not possible if your satellite receiver does not have a timer.*
- *The REC LINK indicator blinks while Auto Satellite Prog recording is in progress.*
- *Pressing the recorder's ⏻/I button while Auto Satellite Prog recording is in progress turns off the recorder's power and disengages the Auto Satellite Prog Rec mode.*
- *If there is more than one satellite programme you wish to record with Auto Satellite Prog Recording, it is not possible to set a different tape speed for each; the tape speed selected in step **4** will apply to all the programmes for Auto Satellite Prog recording.*
- *The B.E.S.T. system (☞ pg. 22) does not work while Auto Satellite Prog recording is in progress.*
- *Just Clock (☞ pg. 61) does not work when the Auto Satellite Prog Rec mode is engaged.*
- *Depending on the type of satellite receiver, the recorder may not record a short portion at the beginning of the programme or may record slightly longer than the actual length of the programme.*
- *If you engage the Auto Satellite Prog Rec mode when the satellite receiver's power is on, the recorder will not start Auto Satellite Prog recording even though the REC LINK indicator blinks. When the satellite receiver shuts off once and is turned back on again, the recorder starts recording.*
- *You can also record a programme from your cable system in the same way if the system has a timer and is connected to the recorder's AV2 IN/DECODER connector.*

Remote Control Functions



Remote A/B Code Switching

The remote control is capable of controlling two JVC video recorders independently; one set to respond to the remote control's A code control signals and another set to respond to B code control signals. The remote control is preset to send A code signals because your video recorder is initially set to respond to A code signals. You can easily modify your video recorder to respond to B code signals.

1 REMOVE POWER SUPPLY

Unplug the mains power cord from the mains outlet.

2 SET REMOTE CONTROL CODE

Press and hold **VCR** on the remote control for over 2 seconds, press the **NUMBER** key "2" and then press **OK**.

3 RE-SUPPLY POWER

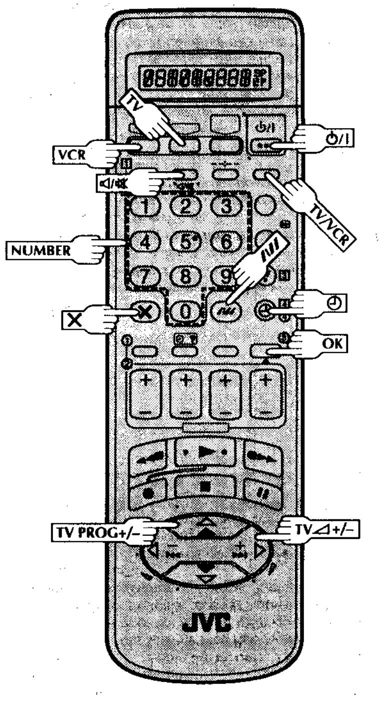
Plug the mains power cord back into the mains outlet.

4 TURN THE RECORDER ON

Press ⏻/I on the remote control. The recorder will now only respond to B code signals.

NOTE:

*To set the recorder back to respond to A code signals, repeat the same procedure as shown above except pressing **NUMBER** key "1" instead of "2" in step **2**.*



Control Your TV Using Additional Buttons

Use the **NUMBER** keys, and the **////** button, X button or ⊙ button to select the TV's channel.

- With televisions under Code 01, 02, 07, 10, 11, 14, 20, 23, 24, 25, 27, 33 or 35, the **////** button corresponds to the 1-digit/2-digit entry switching button (often labelled –/– –) of your TV's remote control.
- With televisions under Code 01, 28, 29 or 34, the X button corresponds to the 10 + button, and the ⊙ button corresponds to the 20 + button of your TV's remote control.

NOTE:

The way these buttons are used is determined by your TV. Use these buttons as instructed for your TV's remote control.

TV Multi-brand Remote Control

Your remote control can operate the basic functions of your TV set. In addition to JVC TVs, other manufacturer's TVs can also be controlled.

Before you start . . .

- Turn off the TV using its remote control.

1 SET TV BRAND CODE

Refer to the chart below. Press and hold **TV** on the recorder's remote control for over 2 seconds, enter your TV's brand code using the **NUMBER** keys, then press **OK**.
Check if the TV's power goes on as it should. If it does, try other operations (☞ step **2**).

- Once you have set the remote control to operate the TV, you don't have to repeat this step until you replace your remote control's battteries.
- JVC or SAMSUNG has more than one code. If the TV does not function with one code, try entering another.

2 OPERATE TV

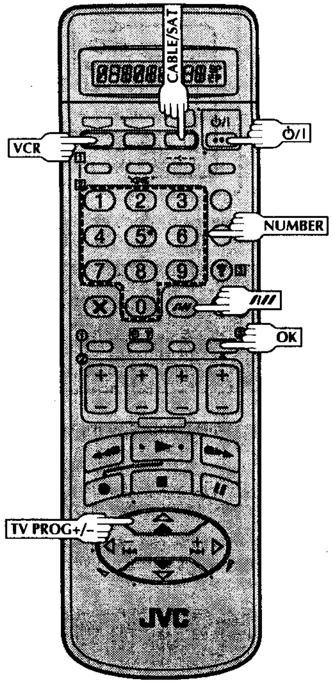
First, press **TV** to set the remote control to TV mode, then press the corresponding button: ⏻/I, **TV PROG +/–**, **TV/VCR**, **TV ◁** +/– (Volume), ◁/🔇 (Muting), **NUMBER** keys.

- For some brands of TV, you must press **OK** after having pressed the **NUMBER** keys.
- To return the remote to video recorder control, press **VCR**.

IMPORTANT

Although the provided remote control unit is compatible with JVC televisions, as well as many other models, it may not work with your TV, or in some instances, may have limited function capability.

TV BRAND NAME	CODE
JVC	01, 23, 24, 25
BLAUPUNKT	19
BRANDT	26
FERGUSON	27
FINLUX	30
FUNAI	32
LG/GOLDSTAR	18
GRAETZ	28
GRUNDIG	19
HITACHI	10
ITT	28
LUXOR	28
MITSUBISHI	03
MIVAR	29
NEC	20
NOKIA	31
NORDMENDE	26
PANASONIC	11
PHILIPS	02
SABA	26
SALORA	28
SAMSUNG	02, 12, 33, 34, 35
SELECO	28
SHARP	06
SONY	07
TELEAVIA	26
TELEFUNKEN	26
THOMSON	26
TOSHIBA	14



Satellite Receiver Multi-Brand Remote Control

Your remote control can operate the basic functions of your satellite receiver set. In addition to JVC satellite receivers, other manufacturer's satellite receivers can also be controlled.

Before you start . . .

- Turn off the satellite receiver using its remote control.

1 SET SATELLITE RECEIVER BRAND CODE

Refer to the chart below. Press and hold **CABLE/SAT** on the recorder's remote control for over 2 seconds, enter your satellite tuner's brand code using the **NUMBER** keys, then press **OK**.
Check if the satellite receiver's power goes on as it should. If it does, try other operations (☞ step **2**).

- Once you have set the remote control to operate the satellite receiver, you don't have to repeat this step until you replace your remote control's battteries.
- Some satellite receiver brands have more than one code. If the satellite receiver does not function with one code, try entering another.

2 OPERATE SATELLITE RECEIVER

First, press **CABLE/SAT** to set the remote control to satellite tuner mode, then press the corresponding button: ⏻/I, **TV PROG +/–**, **NUMBER** keys.

- For VIDEOWAY or some brands of satellite receiver, you must press **///** after having pressed the **NUMBER** keys.
- The **NUMBER** buttons may not function with some satellite receivers.
- To return the remote to video recorder control, press **VCR**.

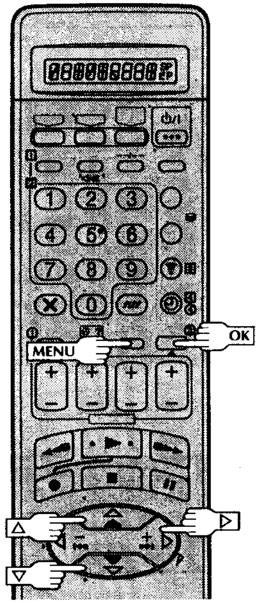
IMPORTANT

Although the provided remote control unit is compatible with JVC satellite receivers, as well as many other models, it may not work with your satellite receiver, or in some instances, may have limited function capability.

SATELLITE TUNER BRAND	CODE
JVC	72, 73
AMSTRAD	60, 61, 62, 63
BT	72
CANAL +	81
FINLUX	68
GRUNDIG	64, 65
HIRSCHMANN	64
ITT	68
JERROLD	75
KATHREIN	70, 71
LUXOR	68
MASPRO	70
NOKIA	68
PACE	65, 67
PANASONIC	74
PHILIPS	66
RFT	69
SALORA	68
SIEMENS	64
SKYMASTER	69
VIDEOWAY	76
WISI	64

Minimizing Picture Degradation While Editing

Turn on the TV and select the VIDEO channel (or AV mode).



Advantages Of S-VHS Video Recorders

You can edit from VHS to S-VHS, S-VHS to VHS, or, from S-VHS to S-VHS.

- From VHS to S-VHS: Record VHS playback signals in the S-VHS mode. Although the picture quality is inherently limited by that of the original, the edited tape has better picture quality than those made by VHS-to-VHS editing.
- From S-VHS to VHS: Because the picture quality of the source material is very high, the edited tape has better picture quality than those made by VHS-to-VHS editing.
- From S-VHS to S-VHS: All signals will be transferred with minimum degradation.

Picture Control

This feature helps you to adjust the playback picture quality according to your preference. *The default setting is "AUTO."

1 ACCESS MAIN MENU SCREEN

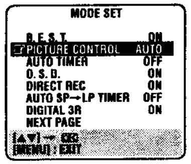
Press **MENU**.

2 ACCESS MODE SET SCREEN

Move the highlighted bar (pointer) to "MODE SET" by pressing △▽, then press **OK** or ▷.

3 SELECT PICTURE CONTROL SET MODE

Move the highlighted bar (pointer) to "PICTURE CONTROL" by pressing △▽, then press **OK** or ▷ to select the desired mode.



MODE SET

B.E.S.T. ON
☞PICTURE CONTROL AUTO
AUTO TIMER OFF
O.S.D. ON
DIRECT REC ON
AUTO SP→LP TIMER OFF
DIGITAL 3R ON
NEXT PAGE
[▲▼] → OK
[MENU] : EXIT

AUTO: Provides optimised picture benefits of B.E.S.T. Picture System. Normally select AUTO.
EDIT: Minimizes picture degradation during editing (recording and playback).
SOFT: Reduces image coarseness when viewing overplayed tapes containing a lot of noise.
SHARP: Clearer, sharper-edged picture when viewing images with lots of flat, same-coloured surfaces such as cartoons.

NOTES:

- *When you select EDIT, SOFT or SHARP, the selected mode will not change until you select again.*
- *When you select EDIT to dub tapes, be sure to select AUTO after you finish dubbing the tapes.*

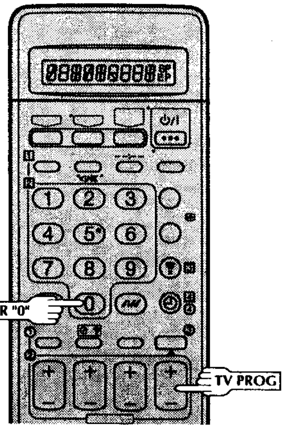
4 RETURN TO NORMAL SCREEN

Press **MENU**.

NOTES:

- *When B.E.S.T. is OFF, "PICTURE CONTROL" switches automatically from AUTO to NORM.*
- *Select EDIT when you are dubbing tapes. Refer to page 38.*

Edit From A Camcorder


NUMBER "0"
TV PROG

NOTES:

- *All necessary cables can be obtained from your dealer.*
- *You can also use another video recorder as the player instead of a camcorder.*
- *When you select EDIT to dub tapes in step **3**, be sure to select AUTO (or NORM when B.E.S.T. is set to OFF) after you finish dubbing the tapes.*

You can use a camcorder as the source player and your video recorder as the recorder.

1 MAKE CONNECTIONS

[A] *If the camcorder has no S-VIDEO output connector...*
... connect the camcorder's AUDIO/VIDEO OUT connectors to the recorder's front panel AUDIO/ VIDEO input connectors.

[B] *If the camcorder has an S-VIDEO output connector...*
... connect the camcorder's S-VIDEO OUT and AUDIO OUT connectors to the recorder's front panel S-VIDEO and AUDIO input connectors.

- When using a monaural camcorder, connect its AUDIO OUT connector to the AUDIO L input connector on your recorder.
- When a Master Edit Control-equipped JVC camcorder is used, the camcorder is capable of controlling the recorder. Refer to the camcorder's instruction manual for operating procedure.

2 SET RECORDER'S INPUT MODE

Press **NUMBER** key "0" and/or **TV PROG** to select "F-1" for the AUDIO/VIDEO input connectors, or "S-1" for the AUDIO/S-VIDEO input connectors, depending on the connectors being used.

3 SET EDIT MODE

See "Picture Control" on page 35.

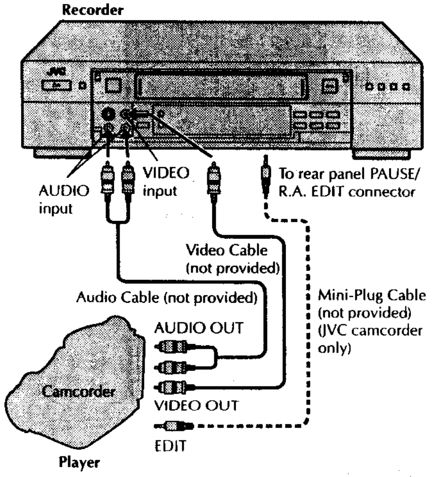
4 START CAMCORDER

Engage its Play mode.

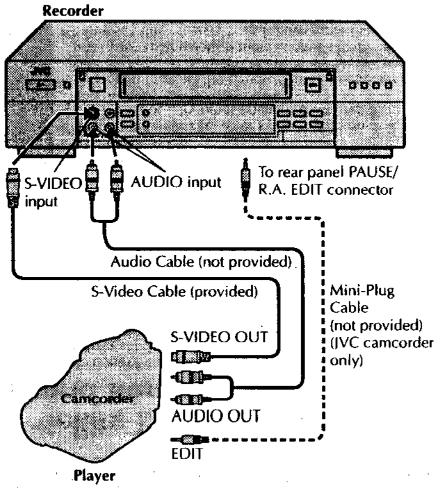
5 START RECORDER

Engage its Record mode.

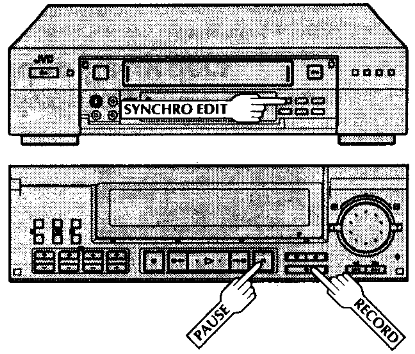
[A] If the camcorder has no S-VIDEO output connector...

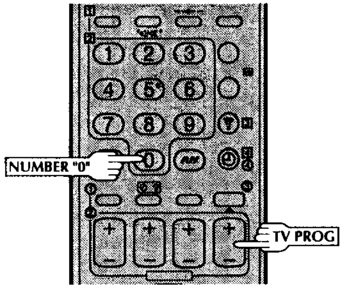

Recorder
AUDIO input
VIDEO input
To rear panel PAUSE/ R.A. EDIT connector
Video Cable (not provided)
Audio Cable (not provided)
Mini-Plug Cable (not provided) (JVC camcorder only)
AUDIO OUT
Camcorder
VIDEO OUT
EDIT
Player

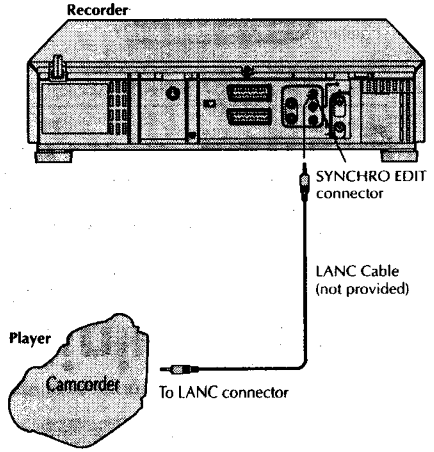
[B] If the camcorder has an S-VIDEO output connector...


Recorder
S-VIDEO input
AUDIO input
To rear panel PAUSE/ R.A. EDIT connector
Audio Cable (not provided)
S-Video Cable (provided)
Mini-Plug Cable (not provided) (JVC camcorder only)
S-VIDEO OUT
Camcorder
AUDIO OUT
EDIT
Player

Synchro Editing


SYNCHRO EDIT
PAUSE
RECORD


NUMBER "0"
TV PROG


Recorder
SYNCHRO EDIT connector
LANC Cable (not provided)
Player
Camcorder
To LANC connector

The Synchro Editing function synchronizes the start of the playback and recording operations when starting an edit operation using a camcorder equipped with a LANC connector and your video recorder.

1 MAKE CONNECTIONS

Connect your recorder to camcorder (☞ pg. 36), and connect your recorder's SYNCHRO EDIT connector to the camcorder's LANC connector.

2 SET RECORDER'S INPUT MODE

Press **NUMBER** key "0" and/or **TV PROG** to select "F-1" for the AUDIO/VIDEO input connectors, or "S-1" for the AUDIO/S-VIDEO input connectors, depending on the connectors being used.

3 SET EDIT MODE

See "Picture Control" on page 35.

4 LOCATE START POINT

Start playback of the tape in the camcorder, and pause playback when you find the point where you want to start editing. Press and hold **PAUSE** and press **RECORD** on your recorder so that the recorder enters the Record-Pause Mode.

5 START SYNCHRO EDITING

Press **SYNCHRO EDIT**.

6 PAUSE SYNCHRO EDITING

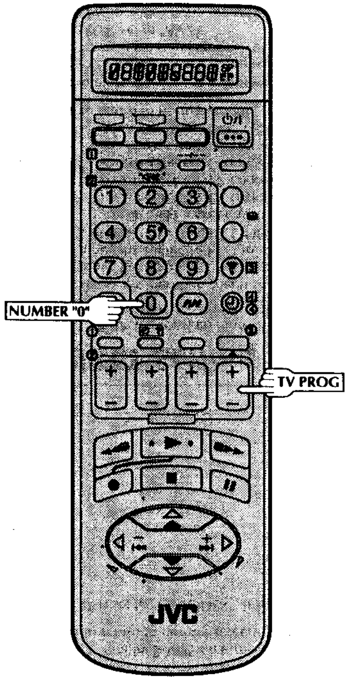
Press **SYNCHRO EDIT** again.

- Repeat steps **4** – **6** as necessary.

NOTES:

- *The Synchro Edit function may not work with the initial part of a camcorder tape.*
- *The Synchro Edit function cannot be used when using the JLIP function. (Pressing **SYNCHRO EDIT** cancels the JLIP function.)*
- *The Synchro Editing function may not work properly with some type of camcorder.*
- *When you select EDIT to dub tapes in step **3**, be sure to select AUTO (or NORM when B.E.S.T. is set to OFF) after you finish dubbing the tapes.*

Edit To Or From Another Video Recorder


NUMBER "0"
TV PROG
JVC

You can use your video recorder as the source player or as the recording deck.

1 MAKE CONNECTIONS

Connect the player's 21-pin SCART connector to the recorder's 21-pin SCART connector as illustrated on page 39.

[A] *When Using Your Video Recorder As The Source Player ...*
... connect its AV1 IN/OUT connector to the recording deck.

[B] *When Using Your Video Recorder As The Recording Deck ...*
... connect its AV2 IN/DECODER or AV1 IN/OUT connector to the source player.

[C] *If Another Recorder Is Compatible With The Y/C Signal ...*
... connect your recorder's AV1 IN/OUT connector to another recorder.

With [C] connection ...

- When using your recorder as the recording deck, set "AV1 SELECT" to "S-VIDEO" and "AV2 SELECT" to "AV2" (☞ pg. 40).
- When using your recorder as the source player, set the AV1 OUT switch on the rear panel to Y/C (☞ pg. 6).

2 SET RECORDING DECK'S INPUT MODE

Set to AUX. With this video recorder, press **NUMBER** key "0" and/or **TV PROG** to select "L-1" for the AV1 IN/OUT connector, or "L-2" for the AV2 IN/DECODER connector, depending on the connector being used.

- When using the AV2 IN/DECODER connector, set "AV2 SELECT" to the appropriate mode. (☞ pg. 40)

3 SET EDIT MODE

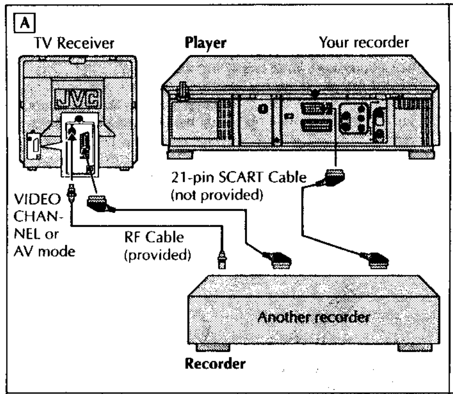
See "Picture Control" on page 35.

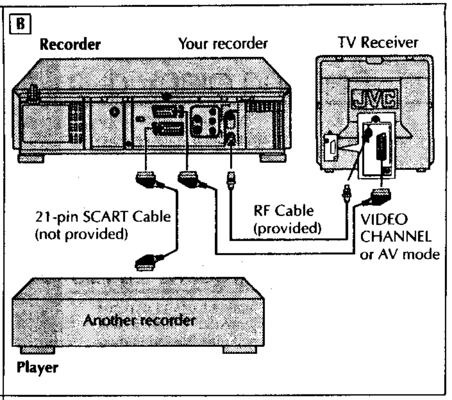
4 START SOURCE PLAYER

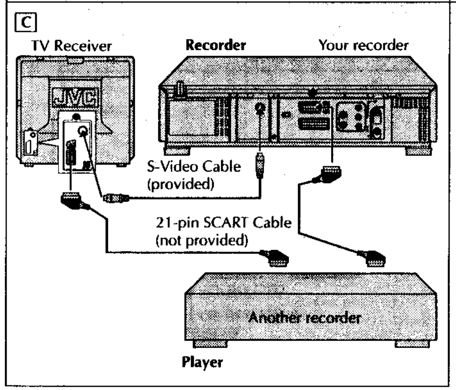
Engage its Play mode.

5 START RECORDING DECK

Engage its Record mode.


A
TV Receiver
Player
Your recorder
JVC
21-pin SCART Cable
(not provided)
VIDEO CHANNEL or AV mode
RF Cable
(provided)
Another recorder
Recorder


B
Recorder
Your recorder
TV Receiver
JVC
21-pin SCART Cable
(not provided)
RF Cable
(provided)
VIDEO CHANNEL or AV mode
Another recorder
Player


C
TV Receiver
Recorder
Your recorder
JVC
S-Video Cable
(provided)
21-pin SCART Cable
(not provided)
Another recorder
Player

NOTES:

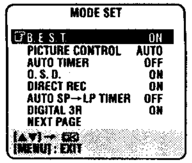
- *All necessary cables can be obtained from your dealer.*
- *For Y/C signal input/output, be sure to use a 21-pin SCART cable that is compatible with the Y/C signal.*
- *When you select EDIT to dub tapes in step 3, be sure to select AUTO (or NORM when B.E.S.T. is set to OFF) after you finish dubbing the tapes.*
- *When you use this recorder as the player for editing, be sure to set "O.S.D." to "OFF" before starting (☞ pg. 47).*
- *If you are using another recorder with S-Video and Audio input/output connectors, you can connect those connectors to this recorder's S-VIDEO IN/S OUT and AUDIO IN/OUT connectors.*
  When Using Your Video Recorder As The Source Player ...
  ... connect its rear panel S OUT and AUDIO OUT connectors to the recording deck's S-Video and Audio input connectors.
  When Using Your Video Recorder As The Recording Deck ...
  ... connect its front panel S-VIDEO and AUDIO input connectors to the source player's S-Video and Audio output connectors. Then, set the recorder's input mode to "S-1".

AV1 SELECT Setting

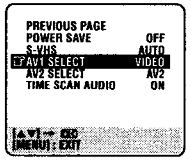
Set "AV1 SELECT" to the appropriate mode depending on the type of unit connected to the rear panel AV1 IN/OUT connector of this recorder.

1. Press **MENU** to access the Main Menu screen.
2. Press △▽ to move the highlight bar (pointer) to "MODE SET", then press **OK** or ▷.
3. Press △▽ to move the highlight bar (pointer) to "AV1 SELECT".
4. Press **OK** or ▷ to select "VIDEO" or "S-VIDEO".
   - a–VIDEO : If a connected device's output is compatible only with regular video signals, set "AV1 SELECT" to "VIDEO".
   - b–S-VIDEO : If a connected device's output is compatible with Y/C signals, set "AV1 SELECT" to "S-VIDEO". This setting will let you take advantage of higher-quality S-VHS pictures.
5. Press **MENU** to return to normal screen.

- If "AV2 SELECT" is set to "DECODER", it is impossible to set "AV1 SELECT" to "S-VIDEO".



MODE SET
☞B. E. S. T. ON
PICTURE CONTROL AUTO
AUTO TIMER OFF
O. S. D. ON
DIRECT REC ON
AUTO SP→LP TIMER OFF
DIGITAL 3R ON
NEXT PAGE
[▲▼]→ OK
[MENU] : EXIT



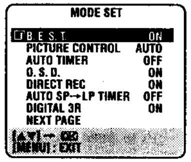
PREVIOUS PAGE
POWER SAVE OFF
S-VHS AUTO
☞AV1 SELECT VIDEO
AV2 SELECT AV2
TIME SCAN AUDIO ON
[▲▼]→ OK
[MENU] : EXIT

AV2 SELECT Setting

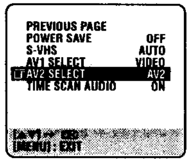
Set "AV2 SELECT" to the appropriate mode depending on the type of unit connected to the rear panel AV2 IN/DECODER connector of this recorder.

1. Press **MENU** to access the Main Menu screen.
2. Press △▽ to move the highlight bar (pointer) to "MODE SET", then press **OK** or ▷.
3. Press △▽ to move the highlight bar (pointer) to "AV2 SELECT".
4. Press **OK** or ▷ to select "AV2", "DECODER" or "SAT".
   - a–AV2 : To use this recorder as the recording deck with the player connected to the AV2 IN/DECODER connector, or to use the satellite tuner connected to the AV2 IN/DECODER connector.
   - b–DECODER : To use a decoder connected to the AV2 IN/DECODER connector.
   - c–SAT : To view a satellite programme with the TV set while the recorder is in Timer mode, in Stop mode, recording or turned off. (☞ pg. 30)
5. Press **MENU** to return to normal screen.

- If you have a satellite receiver or a decoder connected to the AV2 IN/DECODER connector, be sure to set "AV2 SELECT" back to appropriate mode after editing.
- If you're not connecting a satellite receiver or a decoder to the AV2 IN/DECODER connector, leave "AV2 SELECT" set to "AV2".
- The default setting is "AV2"; if the recorder's memory backup has expired due to a power cut or because the AC was removed from the recorder, "AV2" will be automatically selected when the power is restored to the recorder. If you are using a satellite receiver or a decoder, be sure to set "AV2 SELECT" back to appropriate mode.
- If the AV1 OUT switch on the rear panel is set to Y/C, it is impossible to set "AV2 SELECT" to "DECODER".



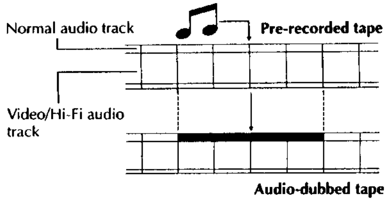
MODE SET
☞B. E. S. T. ON
PICTURE CONTROL AUTO
AUTO TIMER OFF
O. S. D. ON
DIRECT REC ON
AUTO SP→LP TIMER OFF
DIGITAL 3R ON
NEXT PAGE
[▲▼]→ OK
[MENU] : EXIT

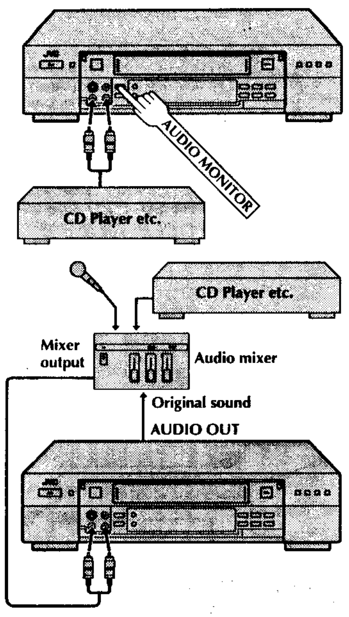


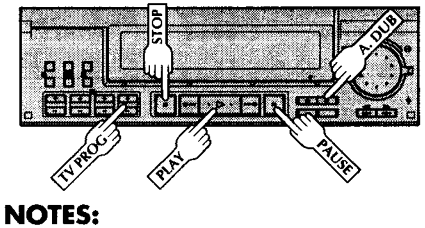
PREVIOUS PAGE
POWER SAVE OFF
S-VHS AUTO
AV1 SELECT VIDEO
☞AV2 SELECT AV2
TIME SCAN AUDIO ON
[▲▼]→ OK
[MENU] : EXIT

Audio Dubbing

Audio dubbing replaces the normal audio sound of a previously recorded tape with a new soundtrack.







NOTES:

- *When monitoring the sound during Audio Dubbing, the normal soundtrack is automatically selected. If you wish to hear the mixed sound (Hi-Fi + Normal soundtracks), press* ***AUDIO*** *on the remote control to select "▷ + ◁ (L+R) + NORM" (☞ pg. 29).*
- *Audio dubbing stops automatically when the counter reaches "0:00:00", and the recorder enters the Play mode. Check the counter reading before dubbing.*
- *Audio dubbing is also possible using the rear panel AV1 IN/OUT or AV2 IN/DECODER connector. When using these connectors, make sure to select the correct input mode in step 2.*
- *Audio dubbing cannot be performed on a cassette that has had its record safety tab removed.*
- *When playing back an audio-dubbed tape, press* ***AUDIO*** *on the remote control to select the soundtrack you wish to hear (☞ pg. 29).*

1 MAKE CONNECTIONS

Connect an audio component to the AUDIO L + R connectors on the recorder's front panel.

- When connecting monaural equipment, use only the recorder's AUDIO L connector.

2 SET INPUT MODE

Press **NUMBER** key "0" and/or **TV PROG** so that "F-1" or "S-1" appears in place of a channel number.

3 LOCATE START POINT

Press **PLAY** to start playback of the tape in your recorder, and press **PAUSE** when you find the point where you want to start dubbing.

4 ENGAGE AUDIO DUBBING

Press **A. DUB**.

- It is possible to take the original sound recorded on the tape in your recorder and mix it with other sounds from a microphone, CD player etc. To perform this audio dubbing with audio mixing, connect as in the diagram on the left.
- Your recorder enters the Audio Dubbing Pause mode. ("○" blinks, "▷" and "▥" light up on the front display panel.)
- To perform audio dubbing with audio mixing, press **AUDIO MONITOR** (or **AUDIO** on the remote control) to select "▷ + ◁ (L+R)" at this point.
  - * Audio dubbing with audio mixing is not possible if you're using a monaural audio component, or if you don't have an audio mixer.

5 START DUBBING

Engage the audio component's Play mode, then press **PLAY** to start the tape in your recorder. Audio dubbing begins at this point.

- "○" blinks and "▷" is displayed on the front display panel.
- To stop dubbing temporarily, press **PAUSE**. Press **PLAY** to resume dubbing.

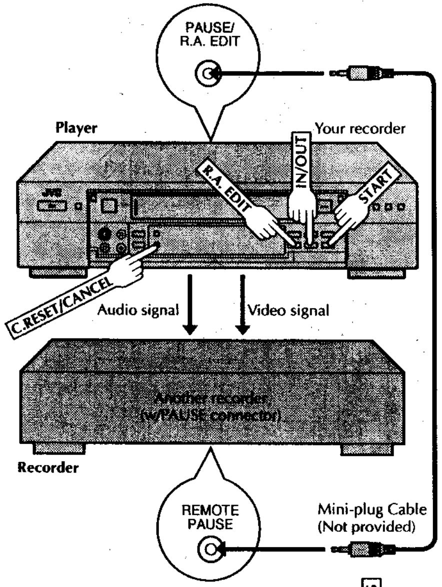
6 END AUDIO DUBBING

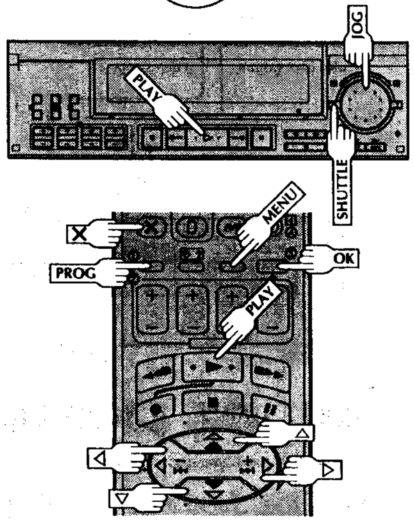
Press **STOP** to stop the tape in your recorder, and engage the audio component's Stop mode.

Random Assemble Editing

This function makes it easier to create edited videos when your video recorder is used as the source player in combination with another JVC video recorder equipped with a Remote PAUSE Connector. You can pre-program up to 8 scenes or "cuts" for automatic editing in the sequence you have specified.

You can also perform Random Assemble Editing with a second non-JVC recorder. (☞ pg. 43)





1 MAKE CONNECTIONS

Connect your recorder's AV1 IN/OUT or S OUT/ AUDIO OUT connectors to the VIDEO IN and AUDIO IN connectors on the recording deck, and connect your recorder's PAUSE/R.A. EDIT connector to the PAUSE connector on the recording deck.

- If the recording deck doesn't have a PAUSE connector, connect to the R.A. EDIT connector instead.
- The Mini-plug cable is a mono 3.5 mm mini-plug to mono 3.5 mm mini-plug connector.

2 PREPARE FOR EDITING

Insert the cassette to be recorded on into the recorder and set the recorder's input mode.

3 LOAD SOURCE CASSETTE

Insert the source cassette into your recorder.

4 SET EDIT MODE

See "Picture Control" on page 35.

5 START SOURCE PLAYBACK

Press **PLAY**.

6 ACCESS R.A. EDIT SCREEN

Press **R.A. EDIT**.

OR

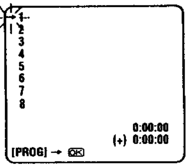
Press **MENU** to access MAIN MENU screen and press △▽ to move the highlight bar (pointer) to "R.A. EDIT", then press **OK**.

- The screen is superimposed on the video playback in step 7.

7 LOCATE EDIT-IN POINT

Find the point on the source tape from where you want the edited scene to begin by pressing ◁▷ or using the **SHUTTLE** ring or the **JOG** dial, then press **IN/OUT** (or **PROG**).

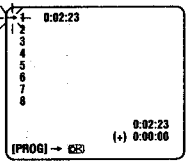
- The edit-in point is registered in memory and appears on the screen.

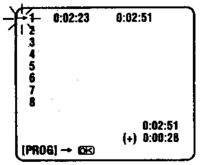


8 LOCATE EDIT-OUT POINT

Find the point where you want the edited scene to end by pressing ◁▷ or using the **SHUTTLE** ring or the **JOG** dial, then press **IN/OUT** (or **PROG**).

- The edit-out point is registered in memory and appears on the screen.
- The total time of the edited scenes is displayed to the right of "(+)".
- Repeat steps 7 and 8 for each additional scene.





9 PREPARE RECORDING DECK

Engage its Record-Standby mode.

10 START R.A. EDIT

Press **START** (or **OK**).

- Automatic editing begins; all the specified scenes are copied to the recording deck in the order they were registered.
- The on-screen display remains while your recorder searches for each scene (blinking cursor indicates scene currently being searched for), but disappears during actual editing.
- While your recorder is searching for each scene, you can hear high-speed sound (which is not TimeScan Audio).
- During scene search, the recording deck automatically enters its Record-Standby mode.
- When all registered scenes have been edited, your recorder enters the Pause mode, the recording deck enters its Record-Standby mode, and the cursor blinks at the next available number.

11 END R.A. EDIT

Press **MENU** to return to the normal screen, and engage the Stop mode for your recorder and for the recording deck.

NOTES:

- *You can also monitor the sound when searching for scenes you want to edit in steps 7 – 8. Since you can hear the soundtrack during selection, you can avoid abrupt or unnatural sounding scene-to-scene transitions. The sound that is heard, however, is not TimeScan Audio.*
- *When editing, there may be a discrepancy of about 2 seconds on the source tape between the locations you chose as edit-in/-out points and the locations your recorder recognizes as those points.*
- *For any scene, the edit-out point must have a counter reading that is at least 1 second after the corresponding edit-in point. Any less than 1 second and the edit-out point will not be registered.*
- *Since the source recorder prerolls during Random Assemble Editing, there must be at least 15 seconds worth of recorded material prior to any edit-in point on the source tape.*
- *If the search time for an edit-in point exceeds 5 minutes, the recording deck enters its Stop mode and editing will not take place.*
- *During steps 7 and 8 — if you engage the Pause mode while registering edit-in and -out points in the R.A. Edit screen, the characters in the on-screen display may become distorted. This is normal.*

To Make Corrections . . .

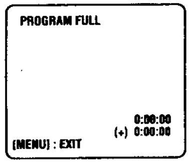
. . . during step 7 or 8, you can cancel registered in and out points by pressing **C.RESET/CANCEL** (or **X**) on the remote control. Each time you press, the preceding point is erased.

- If, for example, you have registered 5 sets of in and out points and want to reset the first set, you have to press **C.RESET/ CANCEL** (or **X**) until all points after the first set have been erased. Reenter them after you've repaired the first set of points.

Memory Capacity

Random Assemble Editing shares memory space with the recorder's timer. If there are programs occupied by timer-recording data, those spaces cannot be used to register edit-in and -out points — meaning you won't be able to edit 8 scenes.

- When all 8 programs are full, "PROGRAM FULL" appears on the R.A. EDIT screen.
- To cancel a program, see page 20.



RM-V704U Multi-Brand R.A. Edit Controller (Not provided)

By connecting this controller to your recorder's R.A. EDIT connector, you can perform Random Assemble Editing in combination with a second non-JVC video recorder. The controller is compatible with various major recorder brands. For compatible systems and availability, please consult your JVC dealer.

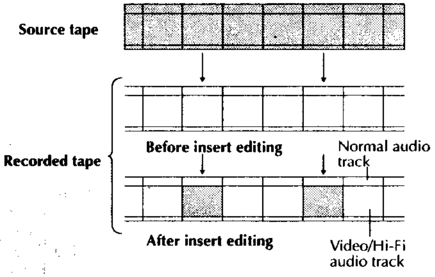
BRAND LIST			
AKAI	JVC	SANYO	THOMSON
BLAUPUNKT	MITSUBISHI	SELECO	TELEFUNKEN
FERGUSON	NEC	REX	SABA
GRUNDIG	PANASONIC	SHARP	NORDMENDE
HITACHI	PHILIPS	SONY	TOSHIBA

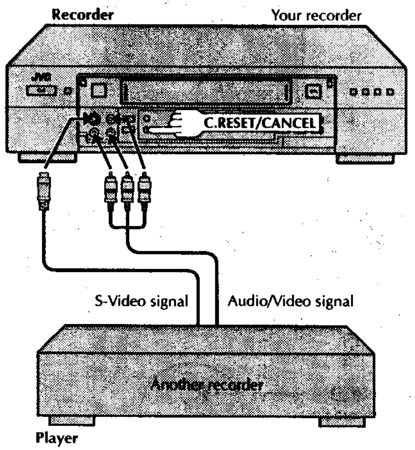
NOTE:

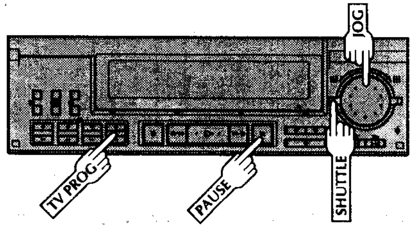
Although the RM-V704U is designed to operate the recording deck, it may not work with some recorders, or may have limited function capability.

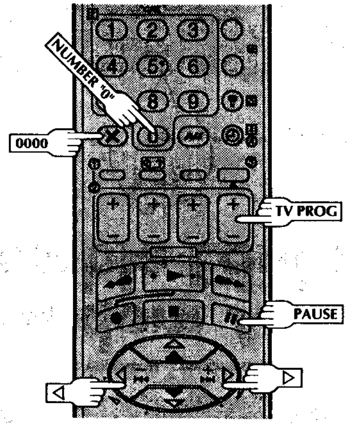
Insert Editing

Insert editing replaces part of the recorded scene with new material. Both the picture and Hi-Fi audio soundtrack are replaced with new ones, while the normal audio soundtrack remains unchanged. If you wish to change the normal audio track as well, use the audio dubbing function simultaneously. Use your video recorder as the recorder.









1 MAKE CONNECTIONS

Connect the player's VIDEO OUT or S-VIDEO OUT and AUDIO OUT connectors to your recorder's VIDEO or S-VIDEO and AUDIO input connectors on the front panel.

2 SET INPUT MODE

Press **NUMBER** key "0" and/or **TV PROG** so that "F-1" for the VIDEO/AUDIO input connectors or "S-1" for S-VIDEO/AUDIO input connectors appears in place of a channel number.

3 LOCATE END POINT

Load the recording cassette into your recorder, and play it back to determine the edit-out point (the end of the segment to be replaced) using the **SHUTTLE** ring or the **JOG** dial or pressing ◁▷ and **PAUSE**.

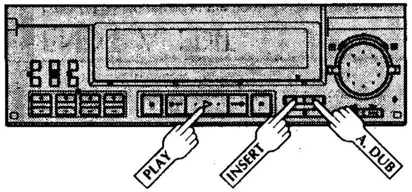
4 RESET THE COUNTER

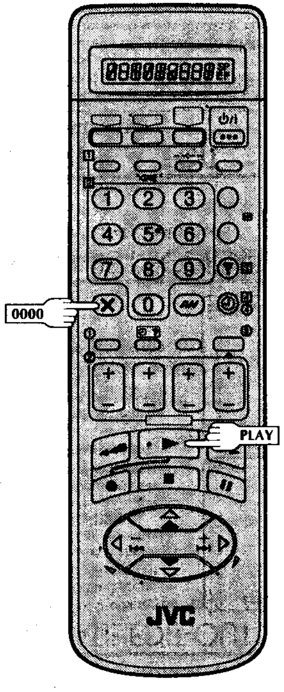
Press **C.RESET/CANCEL** (or **0000**) to change the counter display to "0:00:00".

5 LOCATE START POINT

Determine the edit-in point (the beginning of the segment to be replaced) using the **SHUTTLE** ring or the **JOG** dial or pressing ◁▷ and **PAUSE**.

- Be sure to engage the Still mode at the edit-in point.





6 ENGAGE INSERT EDITING

Press **INSERT**.

- Your recorder enters the Insert-Pause mode. ("○", "▷" and "▦" light up on the front display panel.)
- The TV screen changes from the still picture to the input source you are going to record.

7 START EDITING

Load the source cassette and play back the segment that is to be inserted. When you reach the start of the section of the source tape that you wish to insert, press **PLAY** to start the tape in your recorder; Insert Editing begins at this point.

- "○" and "▷" are displayed on the front display panel.

8 END INSERT EDITING

At counter "0:00:00", Insert Editing will stop automatically while the tape continues running in the Play mode. If you wish to stop Insert Editing before the specified edit-out point, press **C.RESET/CANCEL** (or **0000**).

FOR AV INSERT EDITING

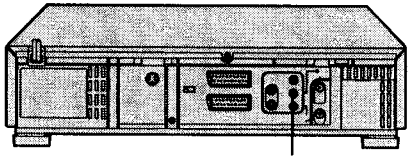
If you want to replace the picture, Hi-Fi audio soundtrack and normal audio soundtrack all at the same time...

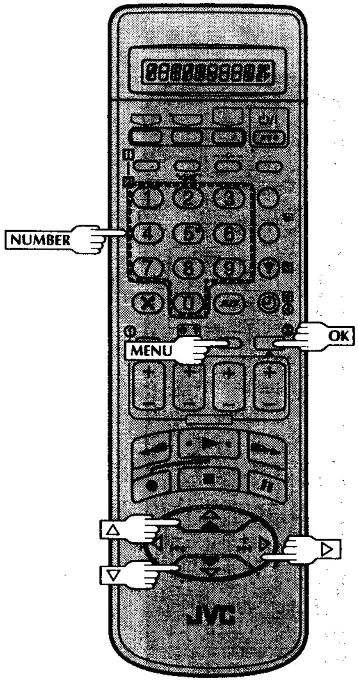
... In step **6** above, after you press **INSERT**, press **A. DUB** also. ("○" and "▷" blink and "▦" lights up on the front display panel.)

NOTES:

- *Suitable leads can be obtained from your dealer.*
- *Insert editing is not possible with cassettes whose safety tab has been removed.*
- *When insert editing is performed on a tape that has been recorded on another video recorder, the inserted portion may appear distorted.*
- *In insert editing, the recording speed (SP/LP) is determined by the previous recording to be replaced. If the previous recording's speed changes within a single edit, the inserted picture will be distorted at the switching point.*
- *A small portion of the recording which precedes an insert edit may become erased.*
- *Insert Editing is also possible using the rear panel AV1 IN/OUT or AV2 IN/DECODER connector. When using these connectors, make sure to select the correct input mode in step 2.*

Information On J Terminal





J Terminal (JLIP(Joint Level Interface Protocol) Connector)

The J Terminal is used to connect the recorder to a personal computer or similar device to allow computerized control of the recorder during editing and certain other operations.

Examples:

With the optional JLIP VIDEO CAPTURE BOX GV-CB3E:

- Enables Random Assemble Editing of up to 99 segments, using this recorder as the playback unit.
- Allows you to capture still images from the recorder into a personal computer.

For further details consult your nearest JVC dealer.

JLIP ID Number

Your recorder has its own JLIP ID number. This ID number must be unique when your recorder is connected to another device via its J terminal. The ID Number is preset to "1" at the factory. You can change this number to any number between "1" and "99". If it is necessary to change the JLIP ID number perform the following steps.

1 ACCESS MAIN MENU SCREEN

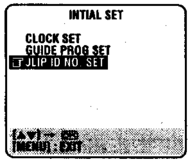
Press **MENU**.

2 ACCESS INITIAL SET SCREEN

Press △▽ to move the highlight bar (pointer) to "INITIAL SET", then press **OK** or ▷.

3 ACCESS JLIP ID NO. SET SCREEN

Press △▽ and move the highlight bar (pointer) to "JLIP ID NO. SET", then press **OK** or ▷.

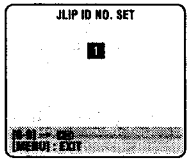

INTIAL SET

CLOCK SET
GUIDE PROG SET
JLIP ID NO. SET

[▲▼] → OK
[MENU] : EXIT

4 SET JLIP ID NUMBER

Press **NUMBER** keys to enter the desired ID number.


JLIP ID NO. SET

1

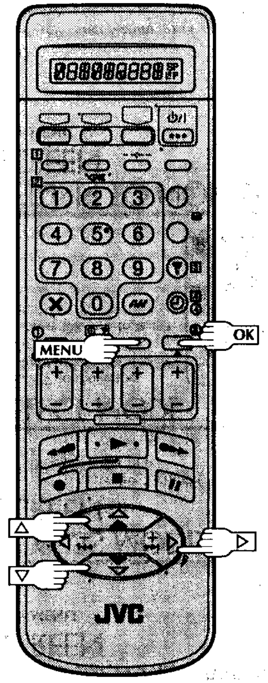
[0-9] → OK
[MENU] : EXIT

5 RETURN TO NORMAL SCREEN

Press **OK**.

Other Functions

Turn on the TV and select the VIDEO channel (or AV mode).



On-Screen Display

You can choose whether or not to have various operational indicators appear on screen, by setting this function ON or OFF.

1 ACCESS MAIN MENU SCREEN

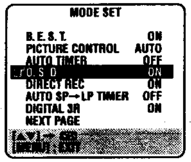
Press **MENU**.

2 ACCESS MODE SET SCREEN

Move the highlight bar (pointer) to "MODE SET" by pressing △▽, then press **OK** or ▷.

3 ENABLE/DISABLE ON-SCREEN DISPLAY

The default setting is "ON", so if you want on-screen displays, leave the setting as it is and go to step **4**. If you don't want the displays to appear, press △▽ to move the highlight bar (pointer) to "O.S.D." and press **OK** or ▷ to set "O.S.D." to "OFF".


MODE SET

B.E.S.T. ON
PICTURE CONTROL AUTO
AUTO TIMER OFF
O.S.D. ON
DIRECT REC ON
AUTO SP→LP TIMER OFF
DIGITAL 3R ON
NEXT PAGE

[▲▼] → OK
[MENU] : EXIT

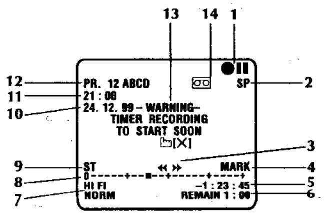
4 RETURN TO NORMAL

Press **MENU**.

NOTES:

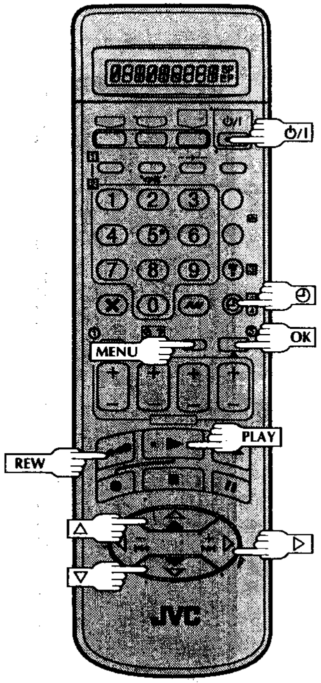
- *When you use this recorder as the player for editing, be sure to set "O.S.D." to "OFF" before starting.*
- *During playback, the operation mode indicators may sometimes be disturbed depending on the type of tape being used.*

The superimposed indication on the TV screen tells you what the recorder is doing.



PR. 12 ABCD
SP
21 : 00
24. 12. 99 – WARNING–
TIMER RECORDING
TO START SOON
[X]
ST
MARK
HI FI
–1 : 23 : 45
NORM
REMAIN 1 : 00

1– Operation mode indicators
2– Tape speed SP/LP/EP (EP is for NTSC playback only)
3– Tape direction
4– Index MARK/ERASE indicator (☞ pg. 25)
5– Counter display
6– Tape remaining time indicator (☞ pg. 15)
7– Audio mode display (☞ pg. 29).
8– Tape position indicator (☞ pg. 12)
9– Type of Broadcast (☞ pg. 29)
10– Current day/month/year
11– Clock display
12– Channel position number and station name/Aux. indicator (L-1, L-2, F-1 or S-1)
13– Timer warning display (☞ pg. 17, 19)
14– Cassette loaded mark



Power Save Mode

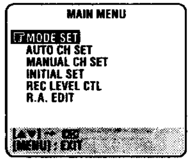
You can reduce the power consumption while the recorder is turned off.

1 ACCESS MAIN MENU SCREEN

Press **MENU**.

2 ACCESS MODE SET SCREEN

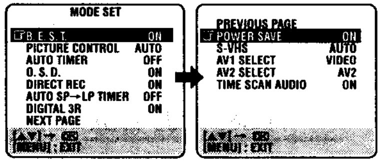
Press △▽ to move the highlight bar (pointer) to "MODE SET", then press **OK** or ▷.



MAIN MENU
☞MODE SET
AUTO CH SET
MANUAL CH SET
INITIAL SET
REC LEVEL CTL
R.A. EDIT
[▲▼] → OK
[MENU] : EXIT

3 SELECT POWER SAVE MODE

Press △▽ to move the highlight bar (pointer) to "POWER SAVE", then press **OK** or ▷ to set to "ON".



MODE SET
☞B. E. S. T. ON
PICTURE CONTROL AUTO
AUTO TIMER OFF
O. S. D. ON
DIRECT REC ON
AUTO SP→LP TIMER OFF
DIGITAL 3R ON
NEXT PAGE
[▲▼] → OK
[MENU] : EXIT

PREVIOUS PAGE
☞POWER SAVE ON
S-VHS AUTO
AV1 SELECT VIDEO
AV2 SELECT AV2
TIME SCAN AUDIO ON
[▲▼] → OK
[MENU] : EXIT

4 RETURN TO NORMAL SCREEN

Press **MENU**.

NOTES:

- *During Power Save, the display panel will be turned off.*
- *The Just Clock function (☞ pg. 61) does not work while the Power Save mode is engaged.*
- *While the recorder is in the Power Save mode, the picture may be distorted momentarily when you turn on/off the recorder.*
- *Power Save does not work when ...*
  - *... the recorder is in the Timer mode.*
  - *... the recorder's power is turned off after timer-recording (or Instant Timer Recording).*
  - *... the Auto Satellite Prog Recording mode is engaged (☞ pg. 30).*
  - *... "AV2 SELECT" is set to "DECODER" or "SAT" (☞ pg. 40).*

Auto SP→LP Timer

If, when timer-recording in SP mode, there is not enough tape to record the entire programme, the recorder automatically switches to LP mode to allow complete recording.

For Example . . .
Recording a programme of 210 minutes in length onto a 180-minute tape

Approximately 150 minutes	Approximately 60 minutes
SP mode	LP mode

Total 210 minutes

Make sure you set "AUTO SP→LP TIMER" to "ON" at the Mode Set screen before the timer-recording starts.

1 ACCESS MAIN MENU SCREEN

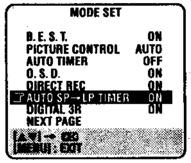
Press **MENU**.

2 ACCESS MODE SET SCREEN

Press △▽ to move the highlight bar (pointer) to "MODE SET", then press **OK** or ▷.

3 SELECT MODE

Press △▽ to move the highlight bar (pointer) to "AUTO SP→LP TIMER", then press **OK** or ▷ to select "ON".



MODE SET
B. E. S. T. ON
PICTURE CONTROL AUTO
AUTO TIMER OFF
O. S. D. ON
DIRECT REC ON
☞AUTO SP→LP TIMER ON
DIGITAL 3R ON
NEXT PAGE
[▲▼] → OK
[MENU] : EXIT

4 RETURN TO NORMAL SCREEN

Press **MENU**.

NOTES:

- *The Auto SP→LP Timer feature is not available during ITR (Instant Timer Recording), and the feature will not work properly with any tapes longer than E-180 or with some tapes of shorter lengths.*
- *If you have programmed the recorder to timer-record 2 or more programmes, the second programme and those thereafter may not fit on the tape if you set "AUTO SP→LP TIMER" to "ON". In this case, make sure the mode is not engaged, then set the tape speed manually during timer programming.*
- *In order to ensure that the recording fits on the tape, this feature may leave a short non-recorded section at the end of the tape.*
- *There may be some picture noise and sound disturbance at the point on the tape where the recorder switches from SP to LP mode.*
- *If you perform timer recording with both PDC and the Auto SP→LP Timer activated, and the programme goes beyond its originally scheduled length, there may be times when the programme cannot be recorded in its entirety.*

Auto Timer

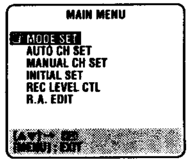
When the Auto Timer is set to ON the timer is automatically engaged when the recorder power is turned off and automatically disengaged when the recorder is powered back on.

1 ACCESS MAIN MENU SCREEN

Press **MENU**.

2 ACCESS MODE SET SCREEN

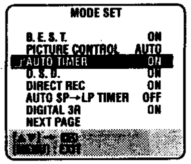
Press △▽ to move the highlight bar (pointer) to "MODE SET", then press **OK** or ▷.



MAIN MENU
☞MODE SET
AUTO CH SET
MANUAL CH SET
INITIAL SET
REC LEVEL CTL
R.A. EDIT
[▲▼] → OK
[MENU] : EXIT

3 SELECT MODE

Press △▽ to move the highlight bar (pointer) to "AUTO TIMER", then press **OK** or ▷ to select either "ON" or "OFF".



MODE SET
B. E. S. T. ON
PICTURE CONTROL AUTO
☞AUTO TIMER ON
O. S. D. ON
DIRECT REC ON
AUTO SP→LP TIMER OFF
DIGITAL 3R ON
NEXT PAGE
[▲▼] → OK
[MENU] : EXIT

4 RETURN TO NORMAL SCREEN

Press **MENU**.

NOTE:

*For safety, when Auto timer is set to "OFF", all other recorder functions are disabled while the Timer mode is engaged. To disengage the timer, press ⏲ (or ⏲**TIMER**).*

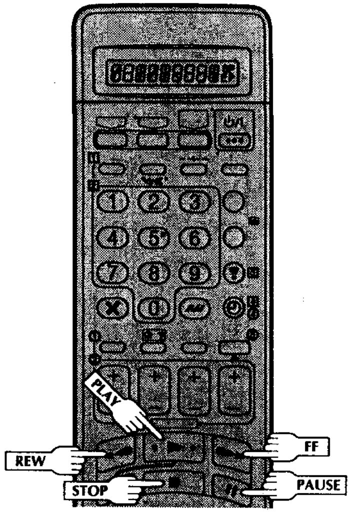
Next Function Memory

The Next Function Memory "tells" the recorder what to do after rewinding. Before continuing, make sure the recorder is in the Stop mode.

a– For Automatic Start Of Playback After Tape Rewind . . .
. . . press **REW**, then press **PLAY** within 2 seconds.

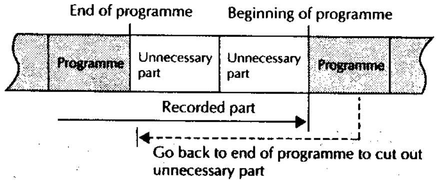
b– For Automatic Power Off After Tape Rewind . . .
. . . press **REW**, then press ⏻/I within 2 seconds.

c– For Automatic Timer Standby After Tape Rewind . . .
. . . press **REW**, then press ⏲ (or ⏲**TIMER**) within 2 seconds.


PLAY
REW
FF
STOP
PAUSE

Retake

You can cut out unnecessary parts of a TV programme while you're recording it.


End of programme
Beginning of programme
Programme
Unnecessary part
Unnecessary part
Programme
Recorded part
Go back to end of programme to cut out unnecessary part

1

ENGAGE RECORD-PAUSE MODE

Press **PAUSE** during recording.

2

LOCATE START POINT

Turn the **JOG** dial to the left or right (or hold down **REW** or **FF**) and release it when you reach the point where you want to resume recording.

* Your recorder returns to the Record-Pause mode.

3

RESUME RECORDING

Press **PLAY** when you wish to resume recording.

NOTE:

Retake function does not work during Direct Rec (☞ pg. 11).

Repeat Playback

Your video recorder can automatically play back the whole tape 50 times repeatedly.

1

START PLAYBACK

Press **PLAY**.

2

ACTIVATE REPEAT PLAYBACK

Press **PLAY** and hold for over 5 seconds, then release.

- The Play indicator (▷) on the display panel blinks slowly.
- The tape plays 50 times automatically, and then stops.

3

STOP PLAYBACK

Press **STOP** at any time to stop playback.

NOTE:

*Pressing **PLAY**, **REW**, **FF** or **PAUSE** also stops Repeat Playback.*

NTSC Playback

Your video recorder is equipped with NTSC circuitry that can play back NTSC tapes.

1

LOAD A CASSETTE

Insert a cassette recorded in NTSC.

2

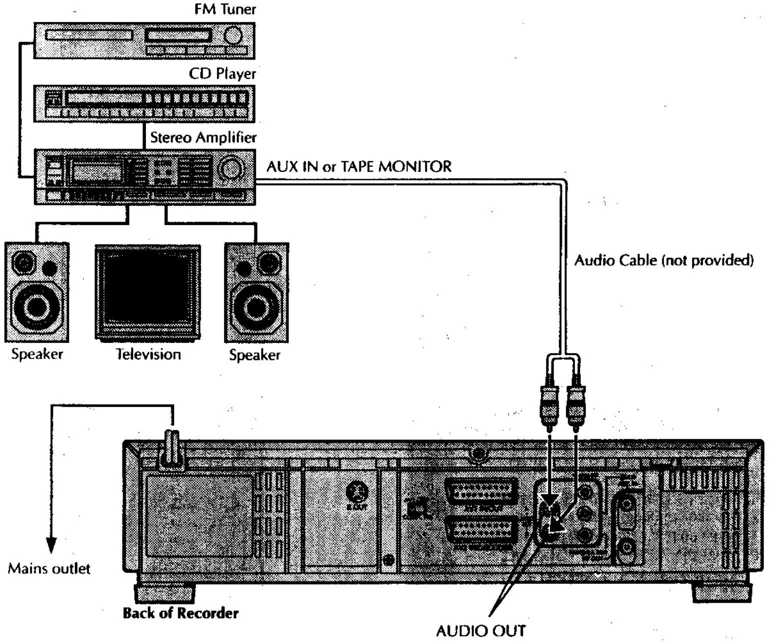
START PLAYBACK

Press **PLAY**.

- "NTSC→PAL" appears on the screen for about 5 seconds.
- Some TVs shrink the picture vertically and place black bars at the top and bottom of the screen. This is not a malfunction on the part of either the video recorder or the TV.
- The picture may roll up and down. This can be corrected using the V-HOLD control found on some TVs. (This cannot be corrected if the TV does not have a V-HOLD control.)
- The counter and tape remaining time readings will be incorrect.
- During search, still, or frame-by-frame playback, the picture will be distorted, and there may be a loss of colour.
- Depending on the type of TV, the top and bottom portions of superimposed displays may be cut off during NTSC playback.

Connection To A Stereo System

These instructions enable you to connect your video recorder to your Hi-Fi stereo system (if you have one) and listen to the soundtrack through the stereo.


FM Tuner
CD Player
Stereo Amplifier
AUX IN or TAPE MONITOR
Audio Cable (not provided)
Speaker
Television
Speaker
Mains outlet
Back of Recorder
AUDIO OUT

1

MAKE CONNECTIONS

Connect the AUDIO OUT L and R connectors on your video recorder to the AUX IN or TAPE MONITOR terminals on your stereo system's receiver or amplifier.

NOTES:

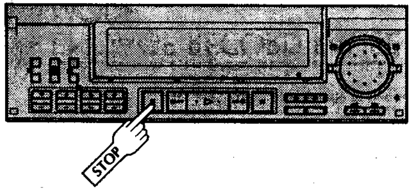
- *When connecting your recorder's audio output connectors to a stereo amplifier, make sure you connect L and R correctly.*
- *If you can receive NICAM TV broadcasts in your area, this recorder can record them independently of the TV set and play them back through the connected stereo system.*
- *When listening to sound through the connected stereo system, turn the TV's volume down completely.*

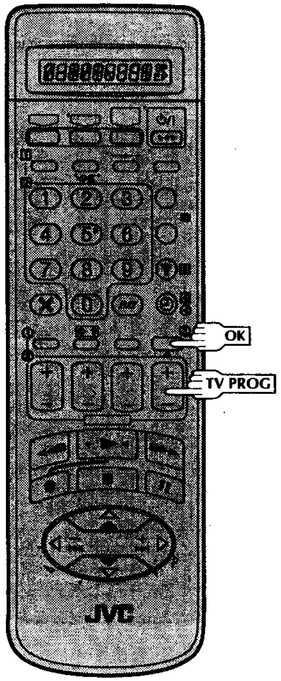
CAUTIONS:

- This recorder has a dynamic range of more than 80 dB with regards to its Hi-Fi audio capability. It is recommended that you check the maximum level if you are going to listen to the Hi-Fi audio signals through a stereo amplifier. A sudden surge in the input level to the speakers may damage them.
- Some speakers and televisions are specially shielded to prevent television interference. If both are of the non-shielded type, do not place the speakers adjacent to the TV set as this can adversely affect the video playback picture.

Video Channel Set

Video Channel (RF Output Channel) is the channel on which your TV receives picture and sound signals from the video recorder through the RF cable.





IMPORTANT
Perform the following steps only if —
— Video Channel Set has not been done correctly by the Auto Set Up function (☞ pg. 8).
— interference appears in the TV picture after you have moved to a different area or a new station has started broadcasting in your area.
— you change the connection between your recorder and TV from RF connection to AV or S-VIDEO connection, or vice versa.

- ***If you have connected the video recorder to your TV via both the provided RF cable and a 21-pin SCART cable (AV connection), or via the provided RF cable, an S-Video cable and an audio cable (S-VIDEO connection), you do not need the video channel so you have to set the video channel to off. — Go to "With AV or S-VIDEO Connection" below.***
- ***If you have connected the video recorder to your TV via the provided RF cable only (RF connection), you have to set the correct video channel— Go to "With RF Connection" on page 53.***

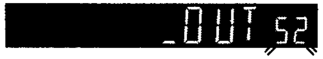
With AV or S-VIDEO Connection

Before performing the following procedure, make sure that:
- the mains power cord is plugged into the mains outlet.
- the video recorder is turned off and there is no cassette inserted in the recorder.
- batteries have been installed in the remote control.

1

ACCESS VIDEO CHANNEL SET MODE

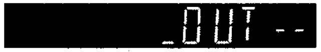
Press and hold down **STOP** on the recorder until the display panel shows the following.



2

SET VIDEO CHANNEL

Press **TV PROG –** until the display panel shows "_OUT– –".



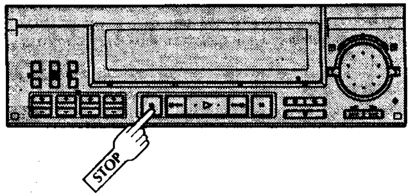
- Now the video channel is set to off.

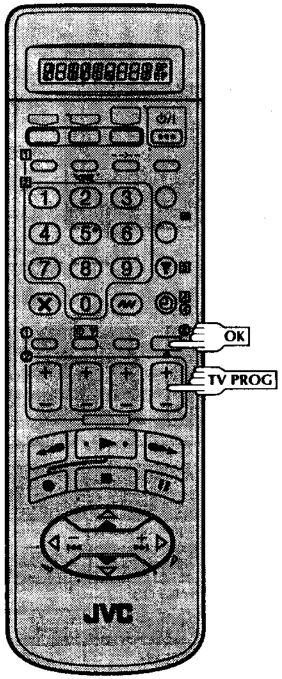
3

EXIT VIDEO CHANNEL SET MODE

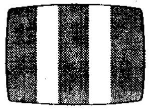
Press **OK**.

To view picture signals from the video recorder, set your TV to its AV mode. Refer to the instructions supplied with your TV set for how to do this.





TEST SIGNAL



The channel on which the screen on the left appears clearly in step **2** is your Video Channel.

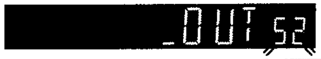
With RF Connection

Before performing the following procedure, make sure that:
- the mains power cord is plugged into the mains outlet.
- the video recorder is turned off and there is no cassette inserted in the recorder.
- the connected TV is turned on.
- batteries have been installed in the remote control.

1

ACCESS VIDEO CHANNEL SET MODE

Press and hold down **STOP** on the recorder until the display panel shows the following.

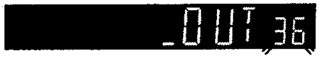


2

SET VIDEO CHANNEL

Press **TV PROG+** or **–** to set the video recorder to a vacant channel between 22 and 69 which is not occupied by any local station in your area. Refer to list on page 60 for details of broadcast stations in your area.

(Ex.) If channel 36 is available in your area



Then set your TV to UHF channel 36. (Refer to the instructions supplied with your TV set for how to do this.)

- If the two vertical white bars appear clearly on the screen as shown in the illustration at buttom left, go to step **3**.
- If the two vertical white bars do not appear clearly, re-set the video recorder to another vacant channel and try again.

IMPORTANT
- *If you set the video recorder to a channel which is occupied by a local station or has neighbouring channels that are occupied by local stations, the picture reception quality will be affected and some interference noise will appear on the TV screen. Be sure to select a vacant channel which has no broadcast on neighbouring channels.*
- *If you cannot obtain the two vertical white bars clearly with any channel between 22 and 69, consult your JVC dealer.*

3

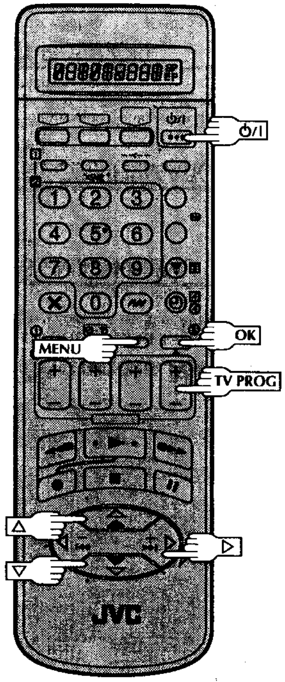
EXIT VIDEO CHANNEL SET MODE

Press **OK**.

To view picture signals from the video recorder, set your TV to the Video Channel.

Tuner Set

Turn on the TV and select the VIDEO channel (or AV mode).



IMPORTANT
Perform the following steps only if —
— Auto Channel Set has not been set correctly by Auto Set Up function (☞ pg. 8) or Preset Download (☞ pg. 9).
— you have moved to a different area or if a new station starts broadcasting in your area.

Your recorder needs to memorise all necessary stations in preset positions in order to record TV programmes. Auto Channel Set automatically assigns all receivable stations in your area to call them up by using the **TV PROG** buttons without going through any vacant channel.

Auto Channel Set

1 TURN ON THE RECORDER

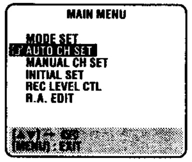
Press ⏻/I.

2 ACCESS MAIN MENU SCREEN

Press **MENU**.

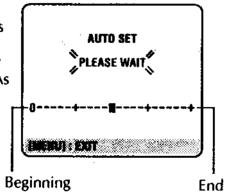
3 PERFORM AUTO CHANNEL SET

Move the highlight bar (pointer) to "AUTO CH SET" by pressing △▽, then press **OK** or ▷.



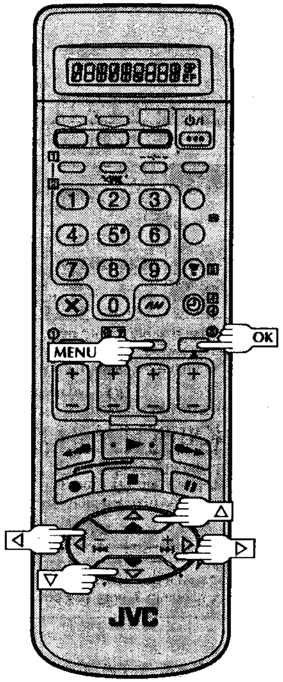
MAIN MENU
MODE SET
☞ AUTO CH SET
MANUAL CH SET
INITIAL SET
REC LEVEL CTL
R.A. EDIT
[▲▼] → [OK]
[MENU] : EXIT

- The Auto Set screen appears, and remains on screen while the recorder searches for receivable stations. As Auto Channel Set progresses, the " ■ " mark on the screen moves from left to right. Wait until the screen as shown in step **4** appears.



AUTO SET
PLEASE WAIT
[MENU] : EXIT

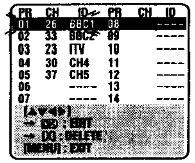
- Auto Channel Set usually takes about 4 – 12 minutes; the duration varies by area.



4 VIEW CONFIRMATION SCREEN

After "SCAN COMPLETED" is displayed on the screen for about 5 seconds, a Confirmation screen looking like the one on the right appears. The stations your recorder located appear on a Confirmation screen — preset positions (PR), channels (CH) and station names (ID - ☞ pg. 59). The blueback screen and the programme currently being broadcast by the station which is blinking appear alternately for 8 seconds each.

To view the next page, use the △▽ ◁▷ button on the remote control.



PR	CH	ID	PR	CH	ID
01	26	BBC1	08		----
02	33	BBC2	09		----
03	23	ITV	10		----
04	30	CH4	11		----
05	37	CH5	12		----
06		----	13		----
07		----	14		----

[▲▼◀▶]
→ [OK] : EDIT
→ [X] : DELETE
[MENU] : EXIT

- The Guide Program numbers will also be set automatically during Auto channel Set.

5 RETURN TO NORMAL SCREEN

Press **MENU**.

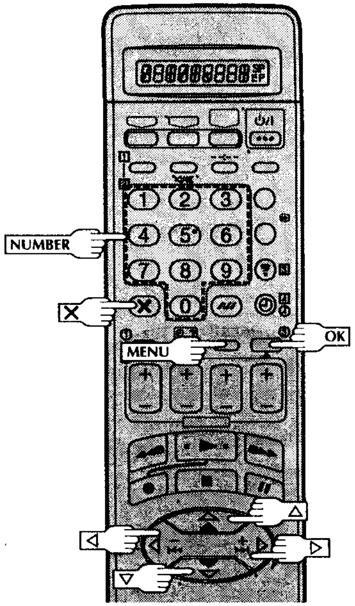
- Using the Confirmation screen, you can skip or add preset positions, enter station names and perform other operations. Refer to pages 56 – 60 for the procedures.
- Depending on reception conditions, the stations may, on occasion, not be stored in order, and the station names may not be stored correctly.

IMPORTANT

- In certain reception conditions, station names may not be stored correctly, and auto Guide Program Number Set may not work properly. If the Guide Program numbers are not set properly, when you timer-record a TV programme using VIDEO Plus+, the recorder will record a TV programme of a different station. When programming the timer using VIDEO Plus+, be sure to check that the preset position corresponding to the broadcasting station you wish to record has been selected (☞ pg. 16, "VIDEO Plus+ Timer Programming").
- Your video recorder memorizes all detected stations even if reception of some of them is poor. In these cases picture quality may be poor. To delete those stations which have an unacceptable picture ☞ "Delete A Channel" on page 57.

NOTES:

- *Fine tuning is performed automatically during Auto Channel Set. If you wish to perform it manually, refer to page 57.*
- *If, for any reason, you perform Auto Channel Set when the aerial cable is not connected properly, "SCAN COMPLETED -NO SIGNAL-" appears on the screen in step **4**. When this happens, make sure of the aerial connection and press **OK**; Auto Channel Set will take place again.*



Storing Channels Manually

To store channels that were not stored during Auto Set Up (☞ pg. 8), Preset Download (☞ pg. 9) or Auto Channel Set (☞ pg. 54).

1

ACCESS MAIN MENU

Press **MENU**.

2

ACCESS CONFIRMATION SCREEN

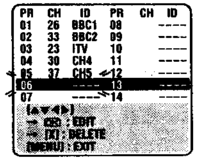
Press △▽ to move the highlight bar (pointer) to "MANUAL CH SET", then press **OK** or ▷. The Confirmation screen appears.

3

SELECT POSITION

Press △▽ ◁▷ until an open position in which you want to store a channel begins blinking, then press **OK**. The Manual Channel Set screen appears.

(Ex.) To store in position 6.



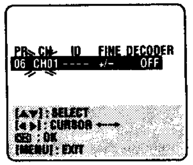
```
PR  CH  ID    PR  CH  ID
01  26  BBC1  08      ----
02  33  BBC2  09      ----
03  23  ITV   10      ----
04  30  CH4   11      ----
05  37  CH5   12      ----
06      ----  13      ----
07      ----  14      ----
[▲▼◀▶]
→ OK : EDIT
→ [X] : DELETE
[MENU] : EXIT
```

The blueback screen and the programme currently being broadcast by the selected channel appear alternately for 8 seconds each.

4

SELECT BAND

Press △▽ to change the band between CH (regular) and CC (cable), then press ▷.



```
PR  CH    ID    FINE DECODER
06  CH01  ----  +/-      OFF
[▲▼] : SELECT
[◀▶] : CURSOR ←→
OK : OK
[MENU] : EXIT
```

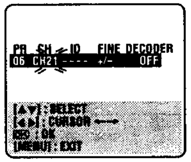
The blueback screen and the programme currently being broadcast by the selected channel appear alternately for 8 seconds each.

5

INPUT CHANNEL

Press the **NUMBER** keys to input the channel number you want to store.

- To input the registered station name (ID – ☞ pg. 59), press ▷ until "– – – –" (ID setting) begins blinking, then press △▽.
- For fine tuning adjustment, press ▷ until "+/–" begins blinking, then press △▽. While tuning, "+" or "–" appears.
- When "AV2 SELECT" is set to "AV2", the "DECODER" setting cannot be changed (☞ pg. 40).



```
PR  CH    ID    FINE DECODER
06  CH21  ----  +/-      OFF
[▲▼] : SELECT
[◀▶] : CURSOR ←→
OK : OK
[MENU] : EXIT
```

The blueback screen and the programme currently being broadcast by the selected channel appear alternately for 8 seconds each.

6

ENTER NEW CHANNEL INFORMATION

Press **OK** and the Confirmation screen appears.

- Repeat steps **3** through **6** as necessary.

7

CLOSE CONFIRMATION SCREEN

Press **MENU**.

- To change positions, see "Change Station Preset Position" (☞ pg. 57).
- If you wish to set station names other than the ones registered in your recorder, ☞ "Set Stations (B)" on pg. 58.

ATTENTION

Guide Program numbers are not set when channels are stored manually. If an attempt is made at timer programming with VIDEO Plus+ in this state, the "GUIDE PROG SET" screen appears; set the Guide Program numbers on this screen. ☞ "ATTENTION – Regarding Guide Program Number Set" on pg. 17.
Or perform "Guide Program Number Set" (☞ pg. 62).

Delete A Channel

Perform steps **1** and **2** of "Storing Channels Manually" on page 56 to access the Confirmation screen before continuing.

1

SELECT ITEM

Press △▽ ◁▷ until the item you want to delete begins blinking.

2

DELETE CHANNEL

Press X.

- The item directly beneath the cancelled one moves up one line.
- Repeat steps **1** and **2** as necessary.

3

CLOSE CONFIRMATION SCREEN

Press **MENU**.

Change Station Preset Position

Perform steps **1** and **2** of "Storing Channels Manually" on page 56 to access the Confirmation screen before continuing.

1

SELECT ITEM

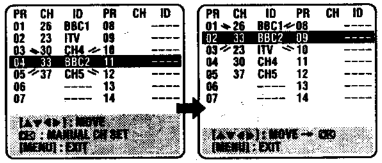
Press △▽ ◁▷ until the item you want to move begins blinking. Then press **OK** and the station name (ID) and its channel (CH) number begin blinking.

2

SELECT NEW POSITION

Press △▽ ◁▷ to move the station to the new preset position, then press **OK**.

Example: If you moved the station in position 4 to position 2, the stations originally in positions 2 and 3 each move down one space.



```
PR  CH  ID    PR  CH  ID
01  26  BBC1  08      ----
02  23  ITV   09      ----
03  30  CH4   10      ----
04  33  BBC2  11      ----
05  37  CH5   12      ----
06      ----  13      ----
07      ----  14      ----
[▲▼◀▶] : MOVE
OK : MANUAL CH SET
[MENU] : EXIT
```

```
PR  CH  ID    PR  CH  ID
01  26  BBC1  08      ----
02  33  BBC2  09      ----
03  23  ITV   10      ----
04  30  CH4   11      ----
05  37  CH5   12      ----
06      ----  13      ----
07      ----  14      ----
[▲▼◀▶] : MOVE → OK
[MENU] : EXIT
```

- Repeat steps **1** and **2** as necessary.

3

CLOSE CONFIRMATION SCREEN

Press **MENU**.

NOTE:

The characters available for the station name (ID) are A–Z, 0–9, –, ∗, +, ␣ (space) (maximum of 4).

Fine-Tuning Channels Already Stored

Perform steps **1** and **2** of "Storing Channels Manually" on page 56 to access the Confirmation screen before continuing.

1

SELECT CHANNEL TO FINE-TUNE

Press △▽ ◁▷ until the channel you want to tune begins blinking.

2

ACCESS MANUAL CHANNEL SET SCREEN

Press **OK** twice. The Manual Channel Set screen appears.

3

PERFORM TUNING

Press ▷ until "+/–" begins blinking, then press △▽ until the picture is clearest. Then press **OK**.

- The Confirmation screen appears.
- Repeat steps **1** through **3** as necessary.

4

CLOSE CONFIRMATION SCREEN

Press **MENU**.

ATTENTION

If channel positions are changed or deleted, the Guide Program numbers that have been set are reset.

- Example 1: If a channel is deleted, all the Guide Program numbers are reset.
- Example 2: If a channel is changed from position 4 to position 2, the Guide Program numbers above position 4 are reset.
- Example 3: If a channel is changed from position 4 to position 6, the Guide Program numbers above position 6 are reset.

* In Examples 2 and 3, if the channel is moved to position 10 before **OK** is pressed, the Guide Program numbers above position 10 are reset.
If an attempt is made at timer programming with VIDEO Plus+ in this state, the "GUIDE PROG SET" screen appears; set the Guide Program numbers on this screen. ☞ "ATTENTION – Regarding Guide Program Number Set" on pg. 17.
Or perform "Guide Program Number Set" (☞ pg. 62).

Set Stations (A)

Set station names that are registered in your recorder.

Perform steps **1** and **2** of "Storing Channels Manually" on page 56 to access the Confirmation screen before continuing.

1

SELECT ITEM

Press △▽ ◁▷ until the item you want begins blinking.

2

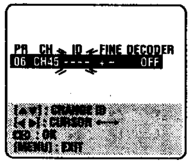
ACCESS MANUAL CHANNEL SET SCREEN

Press **OK** twice.

3

SELECT NEW STATION

Press ▷ until the station name (ID) begins blinking, then press △▽ until the new station's name (ID) you want to store begins blinking.
Registered station names (☞ pg. 59) appear as you press △▽.



4

SWITCH STATIONS

Press **OK**.

- The Confirmation screen appears.
- Repeat steps **1** through **4** as necessary.

5

CLOSE CONFIRMATION SCREEN

Press **MENU**.

Set Stations (B)

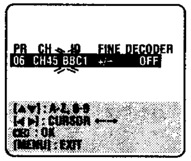
Set station names other than the ones registered in your recorder.

Perform steps **1** and **2** of "Storing Channels Manually" on page 56 to access the Confirmation screen and then perform steps **1** and **2** of "Set Stations (A)" on the left before continuing.

1

SELECT STATION NAME CHARACTER

Press ▷ until the first letter of the station name begins blinking.



2

ENTER NEW CHARACTER

Press △▽ to cycle through the characters (A–Z, 0–9, –, ∗, +, ␣ (space)) and stop when the desired character is indicated, then press ▷ to enter. Enter the remaining characters the same way (maximum of 4).
After entering all characters, press **OK**.

- The Confirmation screen appears.
- If you make a mistake, press ◁ until the incorrect character begins blinking. Then enter the correct character by pressing △▽.

3

CLOSE CONFIRMATION SCREEN

Press **MENU**.

TV Station And ID List

STATION NAME	ID*
Anglia TV	ANGL
ARD	ARD
ARTE	ARTE
BBC Group	BBC
BBC1	BBC1
BBC2	BBC2
Berlin 1	BLN1
Berlin 2	BLN2
Border TV	BORD
Bayern1	BR1
Bayern3	BR3
BRT1	BRT1
BRT2	BRT2
Children Ch	CHLD
Canal +	CH+
CNN	CNN
Channel TV	CHNL
Central TV	CNTR
Channel 4	CH 4
Channel 5	CH 5
DRS	DRS
DR TV	DRTV
DSF	DSF
Euronews	EURN
Euronews	EURO
Eurosports	EURS
France1	FR1
France2	FR2
France3	FR3
Granada TV	GRNA
Grampian TV	GRMP
Hessen1	HR1
Hessen3	HR3
HRT	HRT
HTV	HTV
ITV Network	ITV
Kabelkanal	KABL
London	LNDN
MDR	MDR
MTV	MTV
Nord3	N3
NDR1	NDR1
NDR3	NDR3
NED1	NED1
NED2	NED2
NED3	NED3
Network 2	NET2
NRK	NRK
N-TV	N-TV
Offener Kanal	OKAN
ORF1	ORF1
ORF2	ORF2
ORF3	ORF3
OWL 3	OWL3
Premiere	PRMI
PR07	PR07
RAI1	RAI1
RAI2	RAI2
RAI3	RAI3
RB1	RB1
RB3	RB3
Rikisutvarpid-S	RKPS
RTBF 1	RTB1
RTBF 2	RTB2
RTE 1	RTE1
RTL	RTL
RTL 2	RTL2
RTP	RTP

STATION NAME	ID*
SAT	SAT
SAT 1	SAT1
Scottish TV	SCOT
SC4	SC4
SDR	SDR
SDR1	SDR1
SFB1	SFB1
SFB3	SFB3
SKY	SKY
Sky One	SKY1
Sky Net	SKYN
Sport	SPRT
SR 1	SR1
Super RTL	SRTL
STV Test	STVT
STV 1	STV1
STV 2	STV2
Suedwest3	SWR
SWF 1	SWF1
Schweiz4	SWZ4
TYNE TEES	TEES
Text	TEXT
TF1	TF1
TNT int	TNT
TRT int	TRT
TSI	TSI
TSR	TSR
TSW	TSW
TVE	TVE
TV Polonia	TVPA
TVP 1	TVP1
TVP 2	TVP2
TVS	TVS
TV2	TV2
TV5	TV5
Tele Zurich	TZUR
Ulster TV	ULST
Veronica	VERN
VIVA	VIVA
VIVA2	VIV2
VOX	VOX
VTM	VTM
VT4	VT4
West1	WDR1
West3	WDR3
YLE 1	YLE1
YLE 2	YLE2
Yorkshire TV	YORK
ZDF	ZDF
Zurich 1	ZUR1
3SAT	3SAT

* The "ID" abbreviation is what is shown on-screen in lieu of the station name. The "ID" abbreviation is listed in the Confirmation screen and is displayed on the TV screen each time the recorder is tuned to a different station.

TV Station Channel Number Guide

For customers in the U.K.

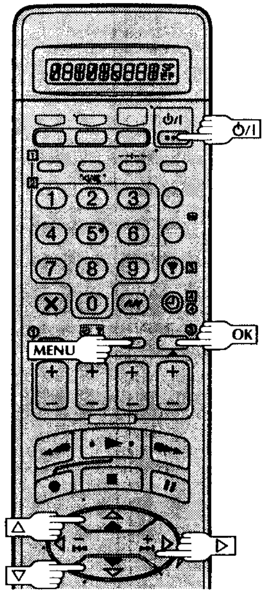
Only the main stations are listed. There are in addition many relay stations, and full lists are available from the BBC and ITV.

	BBC1	BBC2	ITV	CH4	CH5
London & South-East					
Bluebell Hill	40	46	43	65	—
Crystal Palace	26	33	23	30	37
Dover	50	56	66	53	—
Heathfield	49	52	64	67	—
Oxford	57	63	60	53	49
South-West					
Beacon Hill	57	63	60	53	—
Caradon Hill	22	28	25	32	—
Huntshaw Cross	55	62	59	65	67
Redruth	51	44	41	47	37
Stockland Hill	33	26	23	29	—
Channel Islands					
Fremont Point	51	44	41	47	—
South					
Hannington	39	45	42	66	35
Midhurst	61	55	58	68	—
Rowridge	31	24	27	21	—
West					
Mendip	58	64	61	54	37
East					
Sandy Heath	31	27	24	21	39
Sudbury	51	44	41	47	35
Tacolneston	62	55	59	65	52
Midlands					
Ridge Hill	22	28	25	32	35
Sutton Coldfield	46	40	43	50	37
The Wrekin	26	33	23	29	35
Waltham	58	64	61	54	35
North					
Belmont	22	28	25	32	56
Emley Moor	44	51	47	41	37

	BBC1	BBC2	ITV	CH4	CH5
North-West					
Caldbeck	30	34	28	32	56
Winter Hill	55	62	59	65	48
North-East					
Bilsdale West Moor	33	26	29	23	35
Chatton	39	45	49	42	—
Pontop Pike	58	64	61	54	68
Scotland					
Angus	57	63	60	53	—
Black Hill	40	46	43	50	37
Sandale	22	—	—	—	—
Caldbeck	—	34	28	32	56
Creigkelly	31	27	24	21	48
Darvel	33	26	23	29	35
Durris	22	28	25	32	67
Eitshal	33	26	23	29	—
Keelylang Hill	40	46	43	50	—
Knock More	33	26	23	29	—
Rosemarkie	39	45	49	42	67
Rumster Forest	31	27	24	21	—
Selkirk	55	62	59	65	52
Wales					
Blaenplwyf	31	27	24	21	56
Carmel	57	63	60	53	—
Llanddona	57	63	60	53	—
Moel-y-Parc	52	45	49	42	—
Presely	46	40	43	50	37
Wenvoe	44	51	41	47	—
Northern Ireland					
Brougher Mountain	22	28	25	32	—
Divis	31	27	24	21	37
Limavady	55	62	59	65	—

Clock Set

Turn on the TV and select the VIDEO channel (or AV mode).



Just Clock
The Just Clock function provides accurate time keeping through automatic adjustments at regular intervals, by reading data from a PDC signal.
The Just Clock option can be set "ON" or "OFF" at the Clock Set screen (the default setting is "ON"). Press **OK** until the Just Clock setting begins blinking, then press △▽ to change the setting.

IMPORTANT: If you turn the Just Clock function off, the accuracy of your recorder's built-in clock may be impaired, which could adversely affect timer recording.

NOTES:

- *Just Clock (when set to "ON") adjusts the recorder's built-in clock every hour, except for 23:00, 0:00, 1:00 and 2:00.*
- *Just Clock is not effective when . . .*
  - *the recorder's power is on.*
  - *the recorder is in the Timer mode.*
  - *a difference of more than 3 minutes exists between the built-in clock's time and the actual time.*
  - *the recorder is in the Auto Satellite Prog Rec mode (☞ pg. 30).*
- *If Just Clock is set to "ON", the recorder's clock is automatically adjusted at the start/end of Summer Time.*
- *Just Clock may not function properly in poor reception conditions.*

IMPORTANT
If you performed Auto Set Up (☞ pg. 8), Preset Download (☞ pg. 9) or Auto Channel Set (☞ pg. 54), without ever having set the clock previously, the recorder's built-in clock is also set automatically.
Perform the following steps only if —
— Auto Clock Set has not been performed correctly by Auto Set Up, Preset Download or Auto Channel Set.
or
— the recorder's memory backup has expired.
or
— you want to change Just Clock setting (☞ "Just Clock" in the left column).

1 TURN THE RECORDER ON

Press ⏻/I.

2 ACCESS MAIN MENU SCREEN

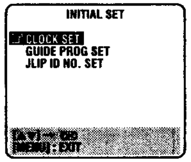
Press **MENU**.

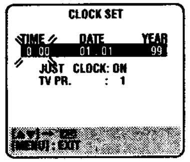
3 ACCESS INITIAL SET SCREEN

Move the highlight bar (pointer) to "INITIAL SET" by pressing △▽, then press **OK** or ▷.

4 ACCESS CLOCK SET SCREEN

Move the highlight bar (pointer) to "CLOCK SET" by pressing △▽, then press **OK** or ▷. The Clock Set screen appears.





5 SET DATE AND TIME

Press △▽ to set the time, then press **OK** or ▷. The "date" display begins blinking. Repeat the same procedure to set the date and year.

- When you set the time, press and hold △▽ to change the time by 30 minutes.
- When you set the date, press and hold △▽ to change the date by 15 days.

6 SET JUST CLOCK

The default setting is "ON". Set as desired by pressing △▽, then press **OK** or ▷.

- For the Just clock function, ☞ "Just Clock" on the left.
- If you set to "OFF", you can disregard the next step as you won't be able to receive regular clock adjustments.

7 SET CLOCK DATA SOURCE PRESET

The recorder is preset to receive clock setting and adjustment data from preset position 1. Press △▽ to set the preset position to the number representing the station transmitting clock setting data (BBC1, BBC2, etc.), then press **OK** or ▷.

8 START CLOCK OPERATION

Press **MENU**.

VIDEO Plus+ Setup

IMPORTANT

Normally, Auto Set Up (☞ pg. 8), Preset Download (☞ pg. 9) or Auto Channel Set (☞ pg. 54) sets the Guide Program Numbers automatically. You need to set the Guide Program Numbers manually only in the following cases.

- *When timer-programming with VIDEO Plus+, the preset position, where the station you wish to record is received on your recorder, is not selected or when you add a channel after Auto Set Up or Auto Channel Set has taken place.*
  — Set the Guide Program Number for that station manually.
- *When you delete a channel or change preset positions manually after Auto Set Up or Auto Channel Set has taken place.*
  — Set the Guide Program Numbers for all the receivable stations manually.
- *When you wish to timer-record a satellite programme with VIDEO Plus+.*
  — Set the Guide Program Numbers for all satellite broadcasts received on your satellite receiver.

Turn on the TV and select the VIDEO channel (or AV mode).

Guide Program Number Set

1

ACCESS MAIN MENU SCREEN

Press **MENU**.

2

ACCESS INITIAL SET SCREEN

Press ∆∇ to move the highlight bar (pointer) to "INITIAL SET", then press **OK** or ▷.

3

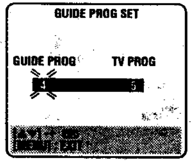
ACCESS GUIDE PROG SET SCREEN

Press ∆∇ to move the highlight bar (pointer) to "GUIDE PROG SET", then press **OK** or ▷.

4

ENTER GUIDE PROG NUMBER

Press ∆∇ or **NUMBER** keys to enter the Guide Program number for the desired station as shown in the TV listings. Then press **OK** or ▷.

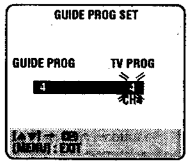


(Ex.) When inputting the Guide Program number 4 for CH4.

5

ENTER RECEIVING PRESET POSITION NUMBER

Press ∆∇ or **NUMBER** keys to input the number of the recorder's preset position on which the Guide Program number's broadcast is received. Then press **OK** or ▷.



(Ex.) If CH4 is received on preset position 4.

- If the satellite broadcast is received on your recorder's auxiliary channel "L-2", select "L-2" for the preset position.
- Repeat steps **4** and **5** as necessary.

6

RETURN TO NORMAL SCREEN

Press **MENU**.

Guide Program Number

"Guide Program (GUIDE PROG) number" refers to the assigned TV station numbers, according to broadcast area, for VIDEO Plus+ timer recording. The Guide Program numbers can be found in most TV listings.

Questions And Answers

PLAYBACK

Q. What happens if the end of the tape is reached during playback or search?
A. The tape is automatically rewound to the beginning.

Q. Can the video recorder indefinitely remain in the still mode?
A. No. It stops automatically after 5 minutes to protect the heads.

Q. When returning from multi-speed search to normal playback, the picture is disturbed. Should I be concerned about this?
A. No, it is normal.

Q. Other than preventing further recording, what effect does removing the Record Safety tab have?
A. It disables marking of index codes.

Q. Sometimes, during Index Search, the video recorder can't find the programme I want to see. Why not?
A. There may be index codes too close together.

RECORDING

Q. When I pause and then resume a recording, the end of the recording before the pause is overlapped by the beginning of the continuation of recording. Why does this happen?
A. This is normal. It reduces distortion at the pause and resume points.

Q. Can the video recorder indefinitely remain in the Record-Pause mode?
A. No. The video recorder shuts off automatically after 5 minutes to protect the heads.

Q. What happens if the tape runs out during recording?
A. The video recorder automatically rewinds it to the beginning or, if Timer Recording, the cassette is ejected.

TIMER RECORDING

Q. "◌" and "◴" remain lit on the display panel. Is there a problem?
A. No. This is a normal condition for a timer recording in progress.

Q. Can I programme the timer while I'm watching a tape or a TV broadcast?
A. You won't see the picture as it is replaced by the on-screen menu, but the audio from the program or tape you're viewing can be heard.

Q. Is it possible to timer-record a TV programme broadcast in 2000?
A. Yes, it is possible.

ATTENTION

This recorder contains microcomputers. External electronic noise or interference could cause malfunctioning. In such cases, switch the recorder off and unplug the mains power cord. Then plug it in again and turn the recorder on. Take out the cassette. After checking the cassette, operate the unit as usual.

Troubleshooting

Before requesting service for a problem, use this chart to see if you can correct the trouble yourself. Small problems are often easily corrected, and this can save you the trouble of sending your video recorder off for repair.

POWER

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
1. No power is applied to the recorder.	● The mains power cord is disconnected.	Connect the mains power cord.
2. The clock is functioning properly, but the recorder cannot be powered.	● "⏲" is displayed on the display panel with Auto Timer set to "OFF".	Press the ⏲ button to turn the "⏲" indicator off.
3. The remote control won't function.	● The batteries are discharged.	Replace the dead batteries with new ones.

TAPE TRANSPORT

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
1. The tape does not run during recording.	● "⏸" is displayed on the display panel.	Press **PLAY** to turn the "⏸" indicator off.
2. The tape will not rewind or fast-forward.	● The tape is already fully rewound or fast-forwarded.	Check the cassette.

PLAYBACK

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
1. The playback picture does not appear while the tape is running.	● If you're using the RF OUT connection . . . . . . the TV receiver's channel selector is not set to the VIDEO channel. . . . the recorder's VIDEO channel has not been correctly set. ● If you're using the AV or S-VIDEO connection, the TV receiver is not set to the AV mode.	If you are using the RF OUT connection . . . . . . set the TV receiver to the VIDEO channel. (☞ pg. 8) . . . Perform "Video Channel Set" (☞ pg. 52) If you are using the AV or S-VIDEO connection, set the TV to its AV mode.
2. Noise appears during visual search.	● This is normal during visual search other than TimeScan.	
3. Noise appears during normal playback.	● The automatic tracking mode is engaged.	Try manual tracking (☞ pg. 24).
4. The playback picture is blurred or interrupted while TV broadcasts are clear.	● The video heads may be dirty.	Consult your JVC dealer.
5. Breaks are noticeable in Hi-Fi soundtrack.	● Automatic tracking is engaged.	Engage and adjust tracking manually (☞ pg. 24) or press **AUDIO** to change the soundtrack to "NORM" (☞ pg. 29).

RECORDING

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
1. Recording cannot be started.	● There is no cassette loaded, or the cassette loaded has had its Record Safety tab removed.	Insert a cassette, or using adhesive tape, reseal the slot where the tab was removed.
2. TV broadcasts cannot be recorded.	● "L-1", "L-2", "F-1" or "S-1" has been selected as the input mode.	Set to the desired preset.
3. Tape-to-tape editing is not possible.	● The source (another video recorder, camcorder) has not been properly connected. ● All necessary power switches have not been turned on. ● The input mode is not correct.	Confirm that the source is properly connected. Confirm that all units' power switches are turned on. Set the input mode to "L-1","L-2", "F-1" or "S-1".
4. Camcorder recording is not possible.	● The camcorder has not been properly connected. ● The input mode is not correct.	Confirm that the camcorder is properly connected. Set the input mode to "L-1","L-2", "F-1" or "S-1".

TIMER RECORDING

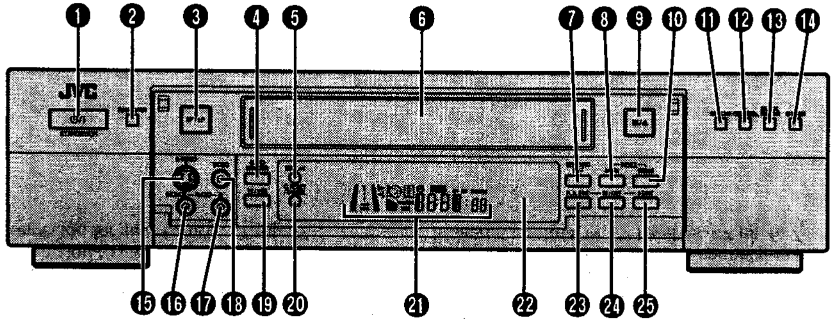
SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
1. Timer recording won't work.	● The clock and/or the timer have been set incorrectly. ● The timer is not engaged.	Re-perform the clock and/or timer settings. Press ⏲ and confirm that "⏲" is displayed on the display panel.
2. Timer programming is not possible.	● Timer recording is in progress.	Timer programming can't be performed while a timer recording is in progress. Wait until it finishes.
3. "⏲" and "📼" on the display panel won't stop blinking.	● The timer is engaged but there's no cassette loaded.	Load a cassette with the Record Safety tab intact, or cover the hole using adhesive tape.
4. The cassette is automatically ejected, and "⏲" and "📼" on the display panel won't stop blinking.	● The loaded cassette has had its Record Safety tab removed.	Remove the cassette and cover the hole with adhesive tape, or insert a cassette with the Record Safety tab intact.
5. "⏲" blinks for 10 seconds and the Timer mode is disengaged.	● ⏲ has been pressed when there are no programs in memory, or the timer record information has been programmed incorrectly.	Check the programmed data and re-programme as necessary, then press ⏲ again.
6. The cassette is automatically ejected, the power shuts off and "⏲" and "📼" won't stop blinking.	● The end of the tape was reached during timer recording.	The programme may not have been recorded in its entirety. Next time make sure you have enough time on the tape to record the entire programme.
7. VIDEO Plus+ does not timer-record properly.	● The recorder's preset positions have been set incorrectly.	Refer to "Guide Program Number Set" and re-perform the procedure (☞ pg. 62).

OTHER PROBLEMS

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
1. Whistling or howling is heard from the TV during camcorder recording.	● The camcorder's microphone is too close to the TV. ● The TV's volume is too high.	Position the camcorder so its microphone is away from the TV. Turn the TV's volume down.
2. When scanning channels, some of them are skipped over.	● Those channels have been designated to be skipped.	If you need the skipped channels, restore them (☞ pg. 56).
3. The preset cannot be changed.	● Recording is in progress.	Press **PAUSE** to pause the recording, change presets, then press **PLAY** to resume recording.
4. Channel settings that were made manually seem to have changed or disappeared.	● After the manual settings were made, Auto Channel Set was performed.	Perform manual setting again.
5. No channels are stored in the recorder's memory.	● The TV aerial cable was not connected to the recorder when Auto Set Up was performed.	Connect the TV aerial cable to the recorder properly and turn off the recorder power once, then turn the recorder power back on again. The recorder will try Auto Set Up again (☞ pg. 8).
6. The remote control won't operate the TV or satellite receiver.	● The remote control brand setting is incorrect.	Re-set the remote control to the correct brand (☞ pg. 33, 34).

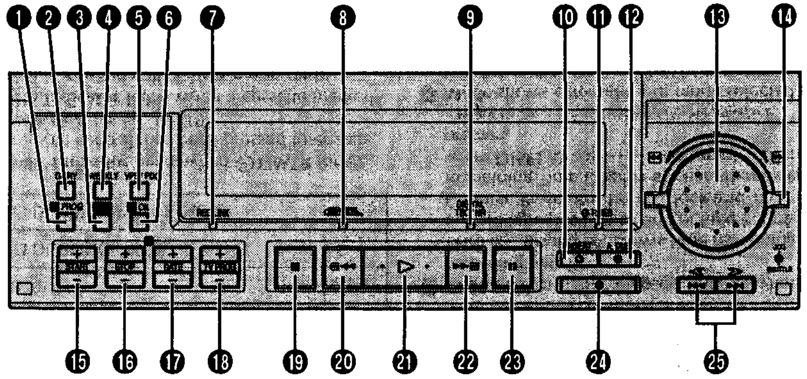
Index

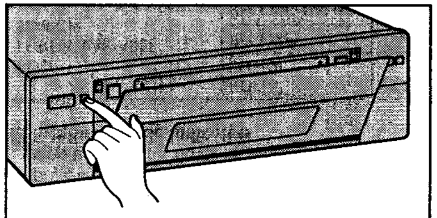
FRONT VIEW



❶ **STANDBY/ON ⏻/I Button** turns recorder on/off (loading a cassette also turns power on).
❷ **PUSH OPEN Button** opens the front lid.
❸ **SP/LP Button** selects tape speed. ☞ pg. 14
❹ **AUDIO MONITOR Button** changes output sound mode. ☞ pg. 29
❺ **DISPLAY Button** switches display between clock time, tape remaining time, counter readings and preset position*. ☞ pg. 15
** Preset position is not displayed during playback.*
❻ **Cassette Loading Slot** is where cassette is inserted; door closes, "cassette loaded" indicator lights up on front display panel.
❼ **SYNCHRO EDIT Button** enables Synchro Editing mode. ☞ pg. 37
❽ **INDEX MARK Button** marks an index code for Index Search. ☞ pg. 25
❾ **STOP/EJECT Button** stops tape; ejects tape during Stop mode. ☞ pg. 12
❿ **INDEX ERASE Button** erases an index code for Index Search. ☞ pg. 25
⓫ **REC LINK Button** enables/disables the Auto Satellite Prog Rec mode. ☞ pg. 31
⓬ **REVIEW Button** "reviews" timer-recorded programme. ☞ pg. 25
⓭ **DIGITAL TBC/NR Button** enables/disables Digital TBC/NR. ☞ pg. 24
⓮ **⏲TIMER Button** engages timer-standby mode. ☞ pg. 17, 19
⓯ **S-VIDEO Input Connector** enables S-VIDEO connection to camcorder or second recorder. ☞ pg. 36
⓰ **AUDIO Input Connector [L]** enables easy connection of audio output (mono) from another recorder, camcorder or other source for editing. ☞ pg. 36
⓱ **AUDIO Input Connector [R]** enables easy connection of audio output (Hi-Fi) from another recorder, camcorder or other source for editing. ☞ pg. 36
⓲ **VIDEO Input Connector** enables easy connection of video output from another recorder or camcorder for editing. ☞ pg. 36
⓳ **TV/VCR Button** switches connected TV's mode between TV and AV. ☞ pg. 12
⓴ **Counter Reset [C.RESET] Button** resets counter to 0:00:00. ☞ pg. 15
CANCEL Button cancels timer-programme. ☞ pg. 20
㉑ **Display Panel** provides clear view of various displays and indicators. ☞ pg. 69
㉒ **Infrared Beam Receiving Window** is where remote control should be aimed when in use.
㉓ **Random Assemble Edit [R.A. EDIT] Button** accesses R.A. EDIT screen. ☞ pg. 42
㉔ **IN/OUT Button** registers edit-in or edit-out point during Random Assemble Editing. ☞ pg. 43
㉕ **START Button** starts Random Assemble Editing. ☞ pg. 43

INSIDE VIEW OF FRONT PANEL

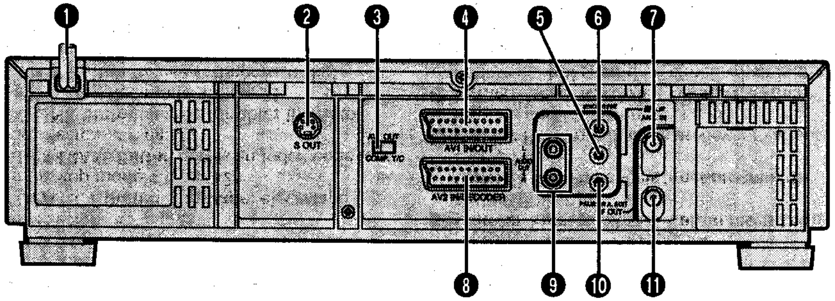




To access covered buttons/connectors, press **PUSH-OPEN** so that the front panel opens.

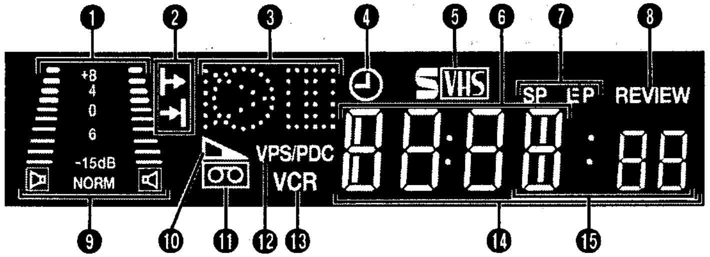
❶ **PROG Button** accesses VIDEO Plus+ Program screen. ☞ pg. 16
❷ **DAILY Button** enables timer recording of daily serials. ☞ pg. 17, 19
❸ **⏲ ? Button** accesses Program screens/displays to check the programme that you have programmed (next programme's information screen/display appears each time button is pressed). ☞ pg. 20
❹ **WEEKLY Button** enables timer recording of weekly serials. ☞ pg. 17, 19
❺ **PDC Button** enables/disables PDC recording. ☞ pg. 17, 19
** VPS (Video Programme System) recording is not currently available in the U.K. and not possible with this recorder.*
❻ **OK Button** enters selections made in on-screen menus. ☞ pg. 21
❼ **REC LINK Indicator** lights up during Auto Satellite Prog Rec mode. ☞ pg. 31
❽ **Instant REVIEW Indicator** blinks after timer-recording. ☞ pg. 25
❾ **DIGITAL TBC/NR Indicator** lights up during Digital TCB/NR. ☞ pg. 20 – 24
❿ **INSERT Button** engages Insert Editing mode. ☞ pg. 45
⓫ **⏲TIMER Indicator** lights when ⏲TIMER (or ⏲ on remote control) has been pressed to engage Timer mode. ☞ pg. 31, 33
⓬ **A. DUB Button** engages Audio Dubbing mode. ☞ pg. 41
⓭ **JOG Dial** plays back frame by frame during Still or Play mode. ☞ pg. 13
⓮ **SHUTTLE Ring** performs forward and reverse slow-motion and search during Still or Play mode. ☞ pg. 13
⓯ **START +/– Button** accesses Regular Program screen; inputs programme Start Time. ☞ pg. 18
⓰ **STOP +/– Button** inputs programme Stop Time. ☞ pg. 18
⓱ **DATE +/– Button** inputs date of programme for timer recording. ☞ pg. 18
⓲ **TV PROG +/– Buttons** select a preset position. ☞ pg. 14
⓳ **STOP Button** stops tape. ☞ pg. 17
⓴ **Rewind [REW] Button** rewinds tape ; initiates high-speed reverse search. ☞ pg. 12, 13
㉑ **PLAY Button** plays back tape ☞ pg. 12; cancels Pause, Still, Slow, Search modes. ☞ pg. 13
㉒ **Fast Forward [FF] Button** fast-forwards tape; initiates high-speed forward search. ☞ pg. 12, 13
㉓ **PAUSE Button** stops tape temporarily during recording ☞ pg. 14; stops tape temporarily during playback; plays back frame by frame with each additional press. ☞ pg. 13
㉔ **RECORD Button** starts regular recording (press once), Instant Timer Recording (press twice); sets duration of ITR. ☞ pg. 14, 15
㉕ << ⏮◀ and ▶⏭ >> Buttons — same as ◁ ▷ *Button on remote control ☞ pg. 13, 25, 26*

REAR VIEW



- ❶ **Mains Power Cord** supplies power to recorder. ☞ pg. 6, 7
- ❷ **S OUT Connector** enables S-VIDEO connection to TV or second recorder. ☞ pg. 7, 38
- ❸ **AV1 OUT Switch** selects the type of signal output via the 21 pin AV1 IN/OUT connector. ☞ pg. 6, 30
- ❹ **AV1 IN/OUT Connector** enables AV connection to TV or second recorder; input recordable when "L-1" selected. ☞ pg. 6, 38
- ❺ **J Terminal (JLIP (Joint Level Interface Protocol) Connector)** enables connection of a personal computer or similar device to allow computerized control of the recorder during editing and certain other operations. ☞ pg. 46
- ❻ **SYNCHRO EDIT Connector** enables connection to camcoder equipped with LANC connector, for easy editing. ☞ pg. 37
- ❼ **ANT. IN Connector** enables connection of aerial. ☞ pg. 6, 7
- ❽ **AV2 IN/DECODER Connector** enables connection of satellite receiver, decoder or second recorder; input recordable when "L-2" selected. ☞ pg. 30, 38
- ❾ **AUDIO OUT (L/R) Connectors** enable connection of audio cassette recorder, TV or second video recorder for dubbing. ☞ pg. 51
- ❿ **Remote PAUSE Connector** enables connection to second recorder equipped with R.A. Edit connector, or to JVC camcorder equipped with Master Edit Control, for easy editing. ☞ pg. 36
  R.A. EDIT Connector enables connection to second recorder equipped with Remote PAUSE connector for easy editing. ☞ pg. 42
- ⓫ **RF OUT Connector** enables connection to aerial terminal of TV receiver. ☞ pg. 6, 7

DISPLAY PANEL

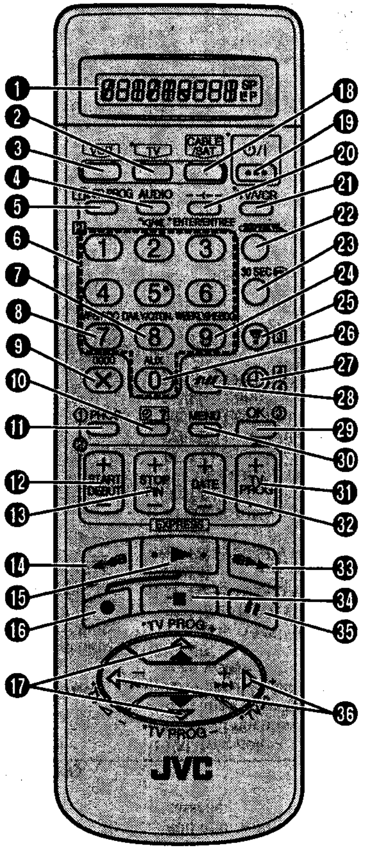


- ❶ **B.E.S.T. Picture System Display** lights from bottom to top while B.E.S.T. is active. ☞ pg. 22
  Audio Level Indicator displays audio input and output levels. ☞ pg. 28
- ❷ **Programme Time Indicators** show the programme start time (⇥) and the programme stop time (→|) for timer-recording. ☞ pg. 18
- ❸ **Symbolic Mode Indicators**

PLAY: FF/REW VARIABLE SEARCH:	▷	STILL: SLOW:	▷▥
		RECORD:	○
		RECORD PAUSE:	○▥
AUDIO DUBBING:			☼
AUDIO DUBBING PAUSE:			☼▥
INSERT:			◌
INSERT PAUSE:			◌▥
AUDIO DUBBING INSERT:			☼
AUDIO DUBBING INSERT PAUSE:			☼▥

- ❹ **"Timer" Indicator** lights when ◴**TIMER** (or ◴ on remote control) has been pressed to engage Timer mode. ☞ pg. 17, 19
- ❺ **S-VHS Indicator** lights when a cassette marked S-VHS is inserted with S-VHS mode set to "AUTO", and when an S-VHS-recorded tape is played back. ☞ pg. 21
- ❻ **Channel Display** shows preset position where the station currently being received is stored.
  Clock Display shows current time. ☞ pg. 10
- ❼ **Tape Speed Indicators** display mode of recording; light during Record or Play mode. ☞ pg. 14
  ** EP is only for NTSC playback.*
- ❽ **Instant REVIEW Indicator** blinks after timer-recording and shows how many programmes have been timer-recorded. ☞ pg. 25
- ❾ **Audio Mode Indicator** displays audio output mode currently selected. ☞ pg. 29
- ❿ **Tape Remaining Time Indicator** displays time remaining on tape when certain buttons are pressed. ☞ pg. 15
- ⓫ **"Cassette Loaded" Mark** lights once a cassette is inserted; remains lit until cassette ejected.
- ⓬ **PDC Indicator** lights when PDC has been engaged for timer recording. ☞ pg. 17, 19
  ** VPS (Video Programme System) recording is not currently available in the U.K. and not possible with this recorder.*
- ⓭ **VCR Indicator** lights when the video recorder is in the video mode. At this point, the TV automatically enters AV mode. ☞ pg. 12
- ⓮ **Counter** shows time elapsed since playback or recording began.
  With ◣ displayed, shows time remaining from current tape position to end of tape (☞ pg. 15).
  Counter, Preset Position*, Clock and Tape Remaining Time Display appear alternately when **DISPLAY** (or – –:– – on remote control) is pressed.
  ** Preset Position is not displayed during playback.*
- ⓯ **Mode** shows external input mode selected (L-1, L-2, F-1 or S-1).

REMOTE CONTROL



Buttons with a small dot on the left side of the name can also be used to operate your TV. ☞ pg. 33

① **LCD Panel** indicates which of the recorder, TV and satellite tuner the remote control can currently operate ☞ pg. 71; is used in VIDEO Plus+ timer programming ☞ pg. 16.

② **TV Button** enables remote control of connected TV. ☞ pg. 33, 71

③ **VCR Button** enables remote control of VCR or is used for switching A/B code of the remote control. ☞ pg. 32, 71

④ **AUDIO Button** changes output sound mode. ☞ pg. 29
🔈/🔇 (TV Muting) Button mutes sound of connected TV. ☞ pg. 33

⑤ **LCD PROG Button** accesses VIDEO Plus+ display on LCD panel. ☞ pg. 16

⑥ **NUMBER Keys** are used in preset position selection ☞ pg. 14, VIDEO Plus+ timer programming ☞ pg. 16.

⑦ **DAILY Button** — same as button on recorder. ☞ pg. 17, 19

⑧ **PDC Button** — same as button on recorder. ☞ pg. 17, 19

⑨ **X Button** cancels timer-programme. ☞ pg. 20
0000 Button resets counter to 0:00:00. ☞ pg. 15

⑩ **◷ ? Button** — same as button on recorder. ☞ pg. 20

⑪ **PROG Button** — same as button on recorder. ☞ pg. 16

⑫ **START +/– Button** — same as button on recorder. ☞ pg. 18

⑬ **STOP +/– Button** — same as button on recorder. ☞ pg. 18

⑭ **Rewind [REW] Button** — same as button on recorder. ☞ pg. 12, 13

⑮ **Play Button** — same as button on recorder. ☞ pg. 12, 13

⑯ **Record Button** — same as button on recorder. ☞ pg. 14

⑰ **△▽ Button** is used for selection in on-screen menus. ☞ pg. 21
TV PROG +/– selects the connected TV's/satellite receiver's channel. ☞ pg. 33, 34

⑱ **CABLE/SAT Button** enables remote control of connected satellite receiver. ☞ pg. 34, "Remote Control LCD" in the right column

⑲ **STANDBY/ON ⏻/I Button** — same as button on recorder.

⑳ **– –:– – (DISPLAY) Button** switches display between clock time, tape remaining time, counter readings and preset position*. ☞ pg. 15
** Preset position is not displayed during playback.*

㉑ **TV/VCR Button** — same as button on recorder. ☞ pg. 12

㉒ **REVIEW Button** — same as button on recorder. ☞ pg. 25

㉓ **30 SEC Button** initiates a 30-second period of fast-motion playback. ☞ pg. 25

㉔ **WEEKLY Button** — same as button on recorder. ☞ pg. 17, 19

㉕ **📡 Button** transmits entered PlusCode number to the recorder. ☞ pg. 16

㉖ **AUX Button** selects recorder's auxiliary input mode. ☞ pg. 36, 37, 38

㉗ **◷ (TIMER) Button** — same as **◷TIMER** button on recorder. ☞ pg. 17, 19

㉘ **Auto Tracking Button (///)** enables/disables auto tracking mode during playback ☞ pg. 24
SP/LP Button selects tape speed. ☞ pg. 14

㉙ **OK Button** — same as button on recorder. ☞ pg. 21

㉚ **MENU Button** accesses Menu screen. ☞ pg. 21

㉛ **TV PROG +/– Button** — same as button on recorder. ☞ pg. 14

㉜ **DATE +/– Button** — same as button on recorder. ☞ pg. 18

㉝ **Fast Forward [FF] Button** — same as button on recorder. ☞ pg. 12, 13

㉞ **Stop Button** — same as button on recorder. ☞ pg. 12

㉟ **Pause Button** — same as button on recorder. ☞ pg. 13

㊱ **◁▷ Button** initiates functions such as Index Search ☞ pg. 25, variable-speed search, frame by frame playback. ☞ pg. 12, 26
TV ◺ +/–Button controls volume of connected TV. ☞ pg. 33

How To Use

The remote control can operate most of your video recorder's functions, as well as basic functions of TV sets and satellite receivers of JVC and other brands.
(☞ pg. 33, 34)

- Point the remote control toward the sensor window.
- The maximum operating distance of the remote control is about 8 m.

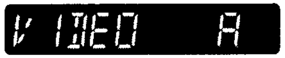
NOTES:

- *When inserting the batteries, be sure to insert in the correct directions as indicated under the battery cover.*
- *If the remote control doesn't work properly, remove its batteries, wait a short time, replace the batteries and then try again.*

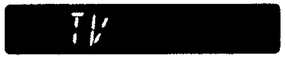
Remote Control LCD

The remote control can operate not only the video recorder but also some of your TV and satellite tuner's functions. The LCD indicates which of these (VIDEO, TV or CABLE/SAT) the remote control can currently operate. When you first purchase the remote control, or after you have just replaced the batteries, VIDEO A (A code) is selected.

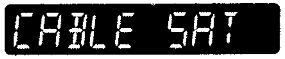
1 To operate your video recorder, first press the **VCR** button to set the remote control to the Video mode.
To switch remote control's A/B code, refer to page 32.



2 To operate your TV, first press the **TV** button to set the remote control to the TV mode (☞ pg. 33).



3 To operate your satellite tuner, first press the **CABLE/SAT** button to set the remote control to the Satellite tuner mode (☞ pg. 34).



NOTES:

Even if "TV" is displayed on the LCD, the following operations can be performed without switching the mode.

- *Basic operations for the recorder*
  After an operation is completed, "TV" reappears on the LCD.
- *Express Timer Programming and VIDEO Plus+ Timer Programming operations*
  To perform a TV operation again, switch to TV mode first.
- *Accessing main menu*
  To perform a TV operation again, switch to TV mode first.

SPECIFICATIONS

GENERAL

Power requirement	: AC 220 – 240 V∿, 50/60 Hz
Power consumption	
Power on	: 24 W
Power off	: 5.5 W
Temperature	
Operating	: 5°C to 40°C
Storage	: –20°C to 60°C
Operating position	: Horizontal only
Dimensions (WxHxD)	: 437 x 106 x 352 mm
Weight	: 5.1 kg
Format	: S-VHS/VHS PAL standard
Maximum recording time	
(SP)	: 240 min. with E-240 video cassette
(LP)	: 480 min. with E-240 video cassette

VIDEO/AUDIO

Signal system	: PAL-type colour signal and CCIR monochrome signal, 625 lines/50 fields
Recording system	: DA4 (Double Azimuth) helical scan system
Signal-to-noise ratio	: 45 dB
Horizontal resolution	: 250 lines (VHS) 400 lines (S-VHS)
Frequency range	: 70 Hz to 10,000 Hz (Normal audio) 20 Hz to 20,000 Hz (Hi-Fi audio)
Input/Output	: 21-pin SCART connectors (IN/OUT x 1, IN/DECODER x 1) RCA connectors (VIDEO IN x 1, AUDIO IN x 1, AUDIO OUT x 1) S-Video connectors (IN x 1, OUT x 1)

TUNER/TIMER

TV channel storage capacity	: 99 positions (+AUX position)
Tuning system	: Frequency synthesized tuner
Channel coverage	: VHF 44.5 – 143/143 – 470 MHz UHF 470 – 862 MHz
Aerial output	: UHF channels 22 – 69 (Adjustable)
Memory backup time	: Approx. 10 min.

ACCESSORIES

Provided accessories	: RF cable, Infrared remote control unit, "AA" battery x 2, S-Video cable

Specifications shown are for SP mode unless otherwise specified.
E.& O.E. Design and specifications subject to change without notice.

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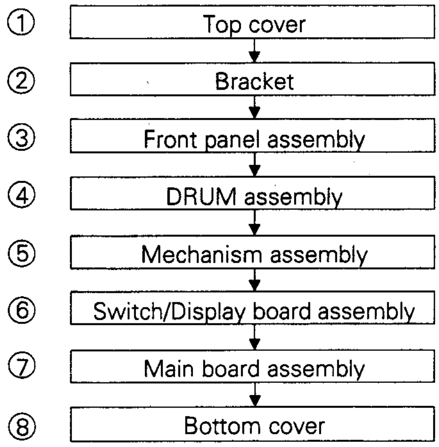
SECTION 1
DISASSEMBLY

1.1 DISASSEMBLY FLOW CHART

This flowchart lists the disassembling steps for the cabinet parts and P.C. boards in order to gain access to item(s) to be serviced. When reassembling, perform the step(s) in reverse order. Bend, route and dress the flat cables as they were originally laid.



1.2 HOW TO READ THE DISASSEMBLY AND ASSEMBLY

STEP /LOC NO.	PART NAME	FIG. NO.	POINT	NOTE
①	TOP COVER	D1	4(S1), (S2)	
②	BRACKET	D2	2(S3)	
③	FRONT PANEL ASSEMBLY [HR-S9600EK]	D3-1	9(L1), CN7002 (WR1)	<NOTE 1>
		D3-2	3(S4), SHAFT. HOLDER, DAMPER UNIT ASSY	<NOTE 2>

(1) (2) (3) (4) (5)

(1) Order of steps in Procedure
When reassembling, perform the step(s) in the reverse order. These numbers are also used as the identification (location) NO. of parts Figures.

(2) Part name to be removed or installed.

(3) Fig.No. showing procedure or part location

(4) Identification of part to be removed,unhooked,unlocked, released,unpluged,unclamped or unsoldered. P = Spring, W = Washer, S = Screw, L = Locking tab, CNxx(WRxx) = Remove the wire (WRxx) from the connector (CNxx).

NOTE: *The bracketed ( ) WR of the connector symbol are assigned nos. in priority order and do not correspond to those on the spare parts list.*

(5) Adjustment information for installation

1.3 DISASSEMBLY/ASSEMBLY METHOD

STEP /LOC NO.	PART NAME	FIG. NO.	POINT	NOTE
①	TOP COVER	D1	4(S1), (S2)	
②	BRACKET	D2	2(S3)	
③	FRONT PANEL ASSEMBLY [HR-S9600EK]	D3-1	9(L1), CN7002 (WR1)	<NOTE 1> <NOTE 2>
		D3-2	4(S4), SHAFT, HOLDER, DAMPER ASSY, MEMBRANE DOOR ASSY	
	FRONT PANEL ASSEMBLY [HR-S8600EK]	D3-3	9(L2), 2(L3), 2(S5), CN3012(WR2), CN7191(WR3), CN7192(WR4), JACK BOARD ASSY	
④	DRUM ASSEMBLY	D4	3(S6), 4(L4), (L5), (P1), CN1(WR5), CN1(WR6), INERTIA PLATE, ROLLER ARM ASSY	<NOTE 2>
⑤	MECHANISM ASSEMBLY	D5	2(S7),2(S8),2(L6), CN1(WR7)	<NOTE 2> <NOTE 3>
⑥	SWITCH/DISPLAY BOARD ASSEMBLY [HR-S9600EK]	D6-1	6(L7), (L8), CN7001(WR8), CN7191(WR9), CN7192(WR10), REC SAFETY BOARD ASSY	<NOTE 2> <NOTE 4>
	SWITCH/DISPLAY BOARD ASSEMBLY [HR-S8600EK]	D6-2	8(L9), (L10), CN7001(WR11), REC SAFETY BOARD ASSY	
⑦	MAIN BOARD ASSEMBLY	D7	2(S9), (S10), (S11)	
⑧	BOTTOM COVER [HR-S9600EK]	D8-1	2(S12), 4(L11), 7(L12), 4(L13) FOOT ASSY, FOOT (REAR)	
	BOTTOM COVER [HR-S8600EK]	D8-2	2(S13), 7(L14)	

<NOTE1>

- Before attaching the Front panel assembly, ensure that the door opener ⓐ is in the lower position.

<NOTE2>

- When inserting the flat wire into the connector, be careful not to make a mistake in the positioning of its electrodes.

<NOTE3>

- When it is required to remove the screws (S7) retaining the Mechanism assembly, please refer to the "Procedures for Lowering the Cassette holder assembly"(See on pages 1-4).
- When removing the Mechanism assembly only, unhook the two spacers connecting it with the Main board assembly with pliers from the back side of the Main board assembly first, and then remove the Mechanism assembly.
- When attaching the Mechanism assembly, be careful not to damage the sensors and switches on the Main board assembly. (D3001: LED, Q3002: Start sensor, Q3003: End sensor, S3002: S tape detect switch).

<NOTE4>

- The REC safety board assembly is attached to the Switch/Display board assembly. It is therefore necessary to remove the REC safety board assembly before removing the Switch/Display board assembly.

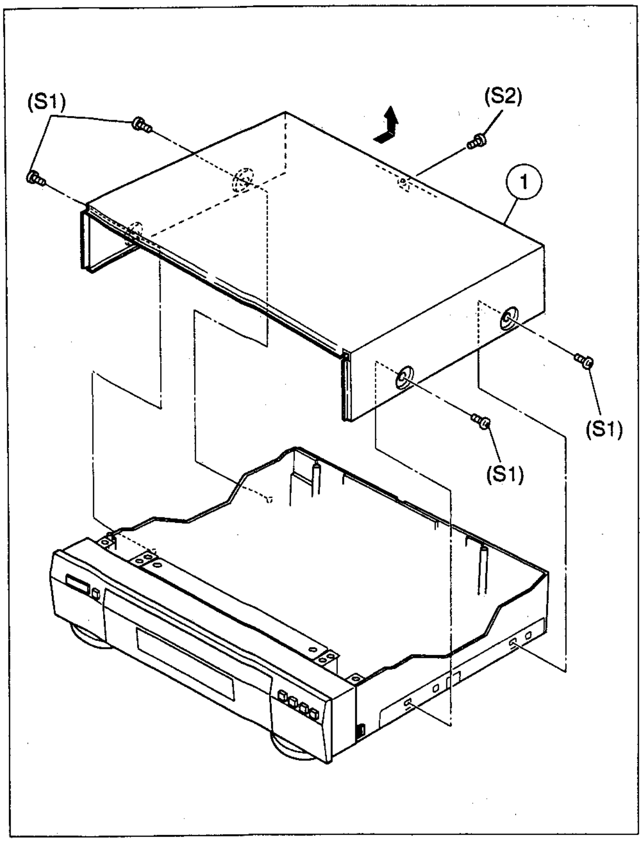


Fig. D1

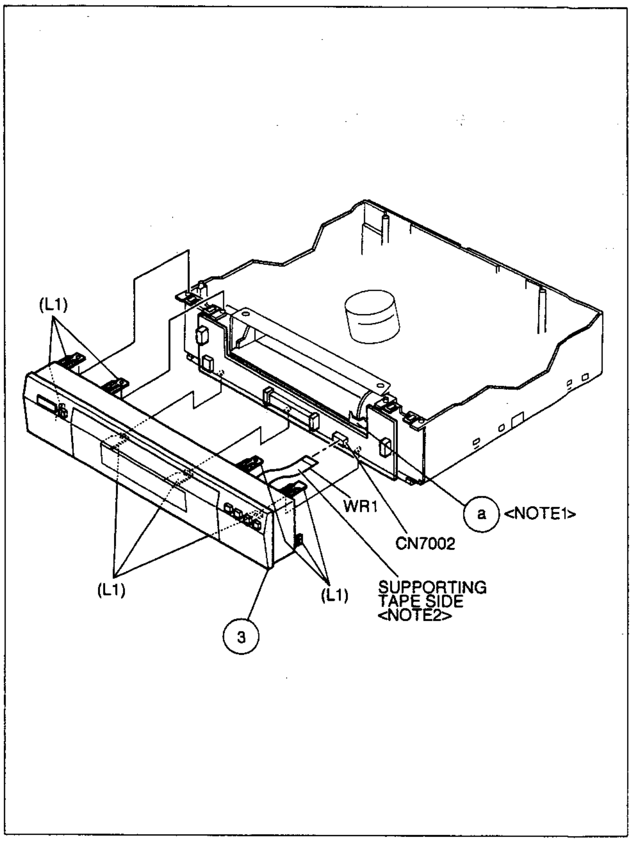

(L1)
WR1
ⓐ <NOTE1>
CN7002
(L1)
(L1)
SUPPORTING TAPE SIDE <NOTE2>
③

Fig. D3-1 [HR-S9600EK]

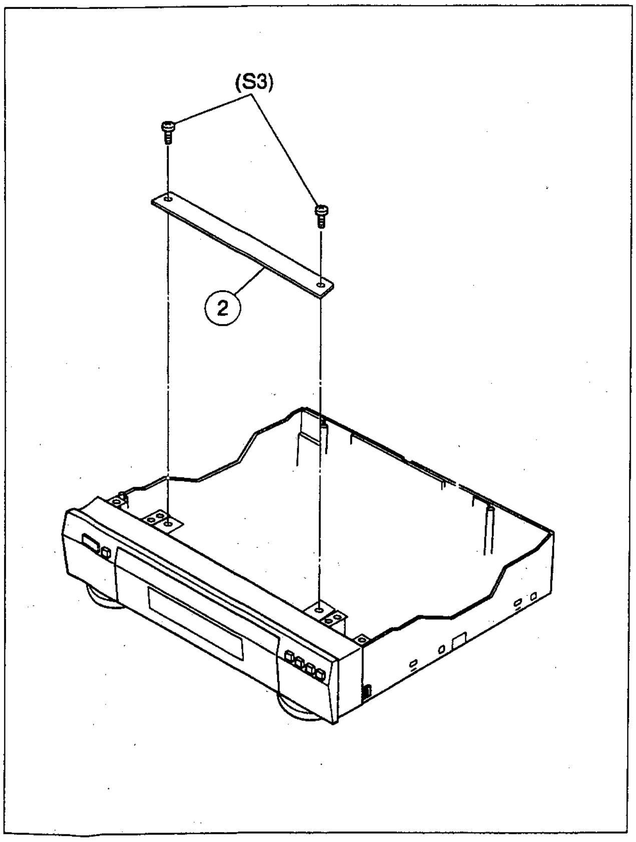


Fig. D2

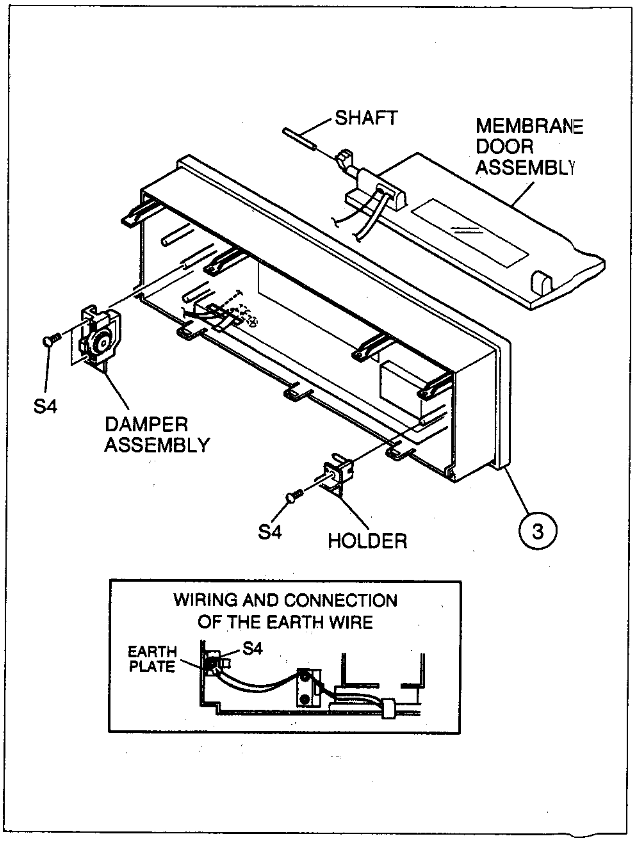

SHAFT
MEMBRANE DOOR ASSEMBLY
S4
DAMPER ASSEMBLY
S4
HOLDER
③
WIRING AND CONNECTION OF THE EARTH WIRE
EARTH PLATE
S4

Fig. D3-2 [HR-S9600EK]

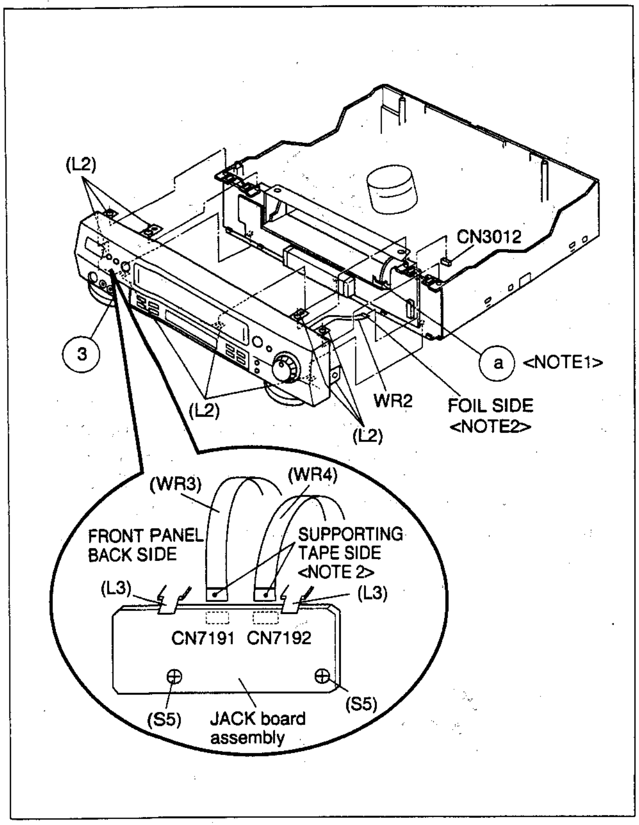

(L2)
CN3012
3
a
<NOTE1>
(L2)
WR2
FOIL SIDE
<NOTE2>
(L2)
(WR3)
(WR4)
FRONT PANEL
BACK SIDE
SUPPORTING
TAPE SIDE
<NOTE 2>
(L3)
(L3)
CN7191
CN7192
(S5)
JACK board
assembly
(S5)

Fig. D3-3 [HR-S8600EK]

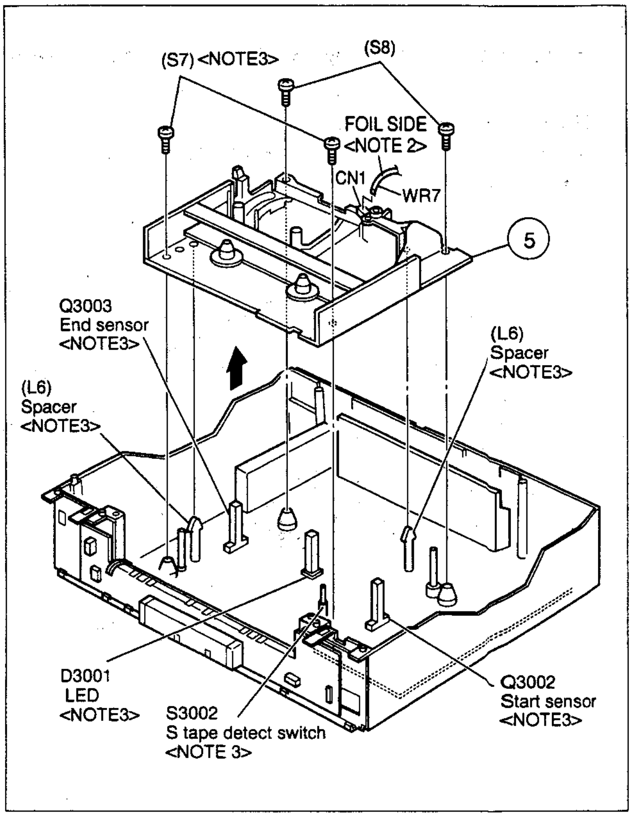

(S7) <NOTE3>
(S8)
FOIL SIDE
<NOTE 2>
CN1
WR7
5
Q3003
End sensor
<NOTE3>
(L6)
Spacer
<NOTE3>
(L6)
Spacer
<NOTE3>
D3001
LED
<NOTE3>
S3002
S tape detect switch
<NOTE 3>
Q3002
Start sensor
<NOTE3>

Fig. D5

NOTE : When installing the DRUM assembly, secure the screws (S6) in the order of A, B, C.

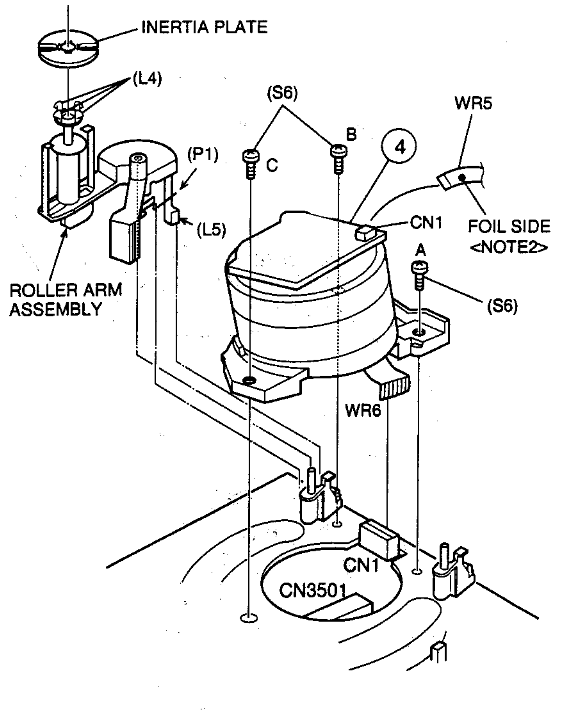

INERTIA PLATE
(L4)
(S6)
B
C
WR5
(P1)
4
(L5)
CN1
FOIL SIDE
<NOTE2>
A
ROLLER ARM
ASSEMBLY
(S6)
WR6
CN1
CN3501

Fig. D4

Procedures for Lowering the Cassette holder assembly

As the mechanism of this unit is integrated with the Housing assembly, the holder must be lowered and the two screws unscrewed when removing the Mechanism assembly.

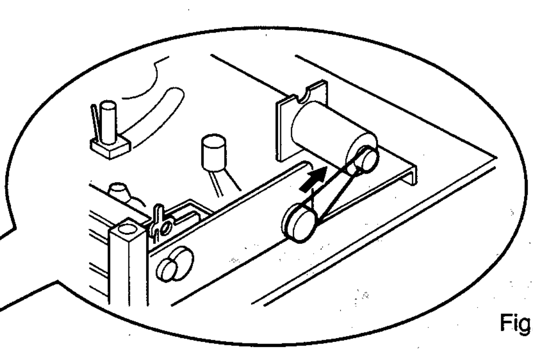


Fig. 2

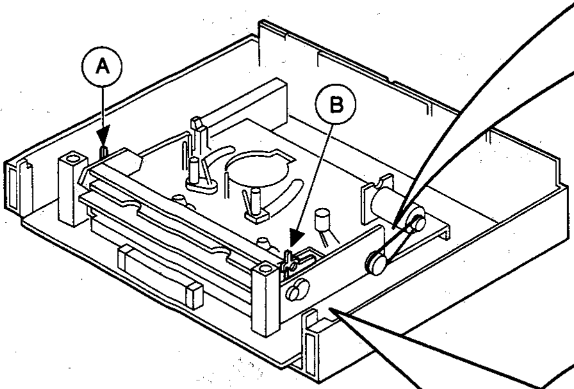


Fig. 1

Turn the loading motor pulley in the direction as indicated by Fig.2. As both Ⓐ and Ⓑ levers are lodged twice, push the levers in the direction as indicated by Fig.3 to release them. When pushing the levers, do it in the order of Ⓐ,Ⓑ,Ⓑ,Ⓐ. When the holder has been lowered, turn the pulley until the cassette holder is securely in place without allowing any up/down movement.

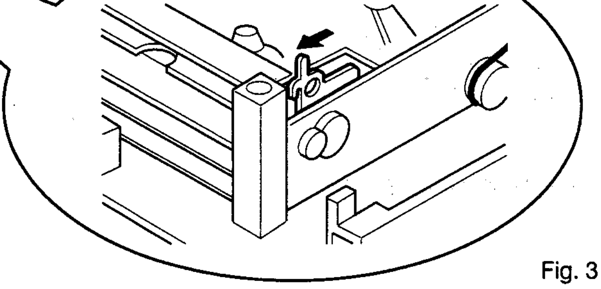


Fig. 3

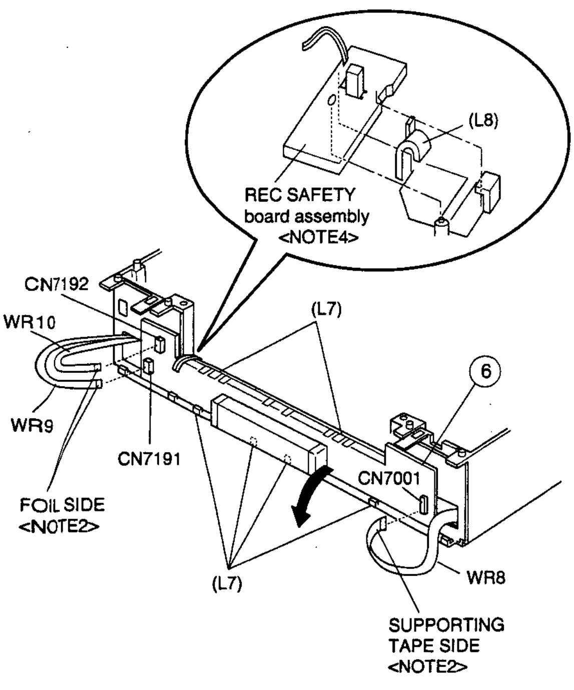

(L8)
REC SAFETY board assembly <NOTE4>
CN7192
WR10
WR9
CN7191
(L7)
⑥
CN7001
FOIL SIDE <NOTE2>
(L7)
WR8
SUPPORTING TAPE SIDE <NOTE2>

Fig. D6-1 [HR-S9600EK]

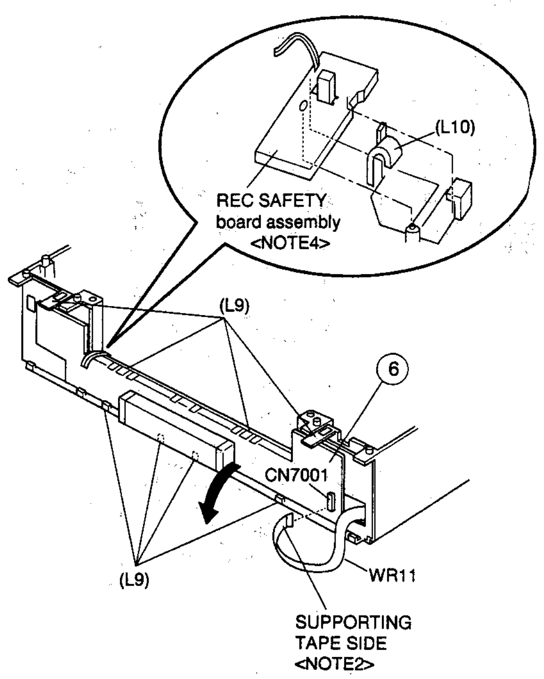

(L10)
REC SAFETY board assembly <NOTE4>
(L9)
⑥
CN7001
(L9)
WR11
SUPPORTING TAPE SIDE <NOTE2>

Fig. D6-2 [HR-S8600EK]

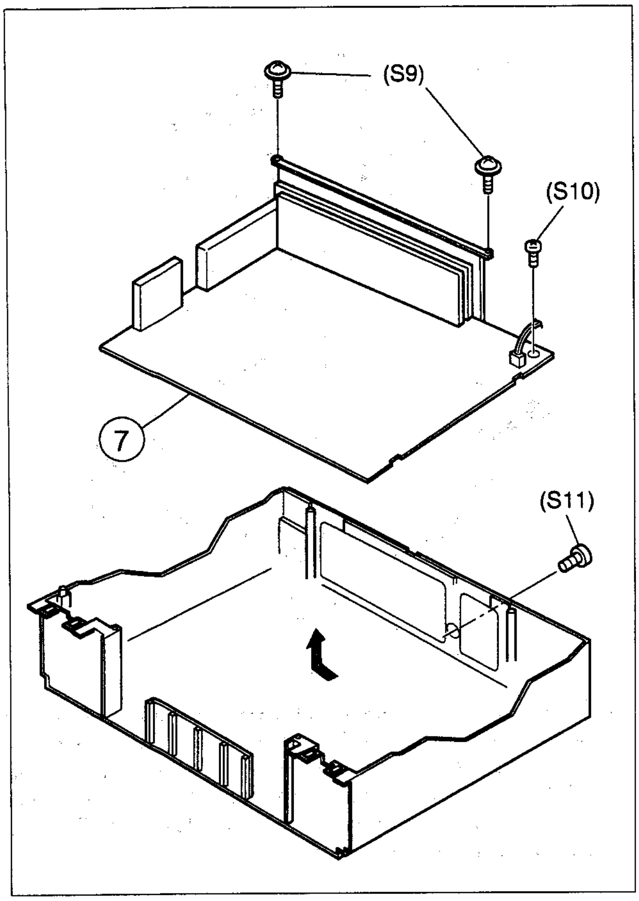


Fig. D7

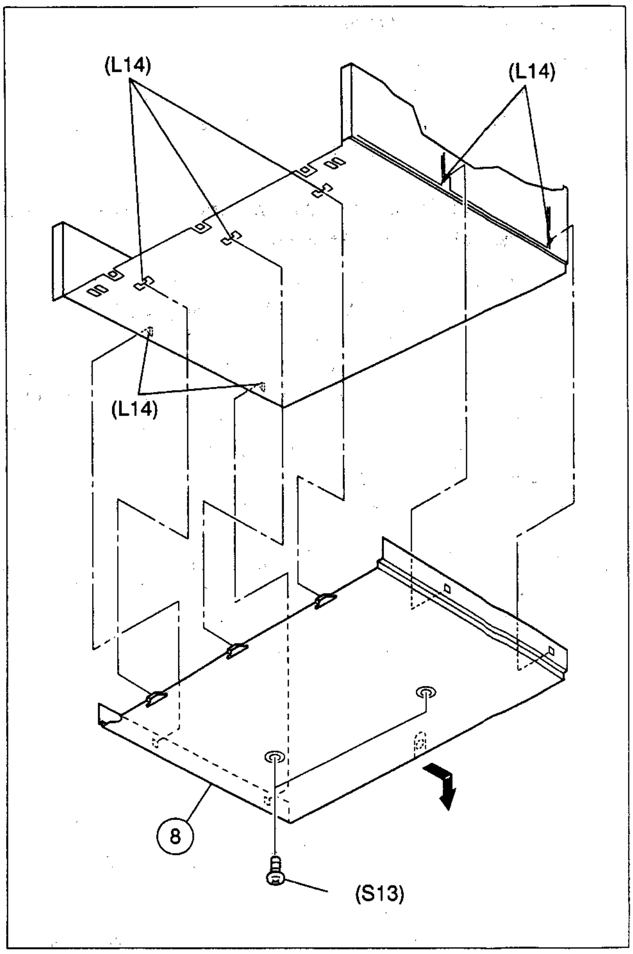

(L14)
(L14)
(L14)
8
(S13)

Fig. D8-2 [HR-S8600EK]

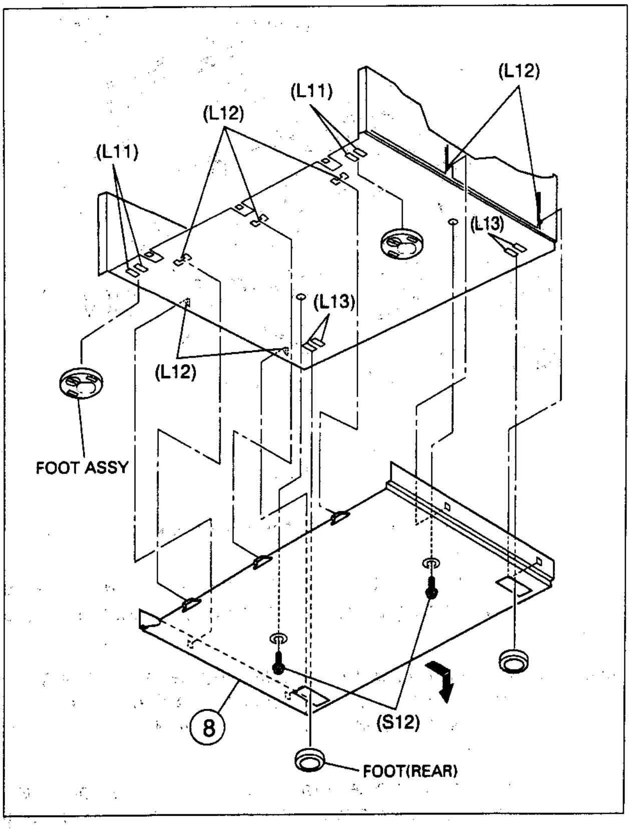

(L12)
(L11)
(L12)
(L11)
(L13)
(L13)
(L12)
FOOT ASSY
8
(S12)
FOOT(REAR)

Fig. D8-1 [HR-S9600EK]

1.4 SERVICE POSITION

In order to facilitate diagnosis and the repair of the Mechanism assembly, this unit is constructed so as to allow the Mechanism and Main board assemblies to be removed together from the Chassis assembly.

1.4.1 How to take out the Mechanism and Main board assemblies [HR-S9600EK]

(1) Remove the Top cover, Bracket and Front panel assembly. (See 1.3 DISASSEMBLY/ASSEMBLY METHOD. Take care not to pull the drum wire (Fig.D4) from CN1.)

(2) Lower the cassette holder, and make the preparations required in order to remove the screws from the Mechanism assembly. (Refer to the "Procedures for Lowering the Cassette holder assembly" on pages 1-4 of 1.3 DISASSEMBLY/ASSEMBLY METHOD.)

(3) Take out 2 screws Ⓐ and 2 screws Ⓑ as shown in Fig. 1-4-1.

(4) Remove the flat wires from CN3011 and CN7504 on the Main board assembly, CN7105 on the 3D SVHS board assembly.

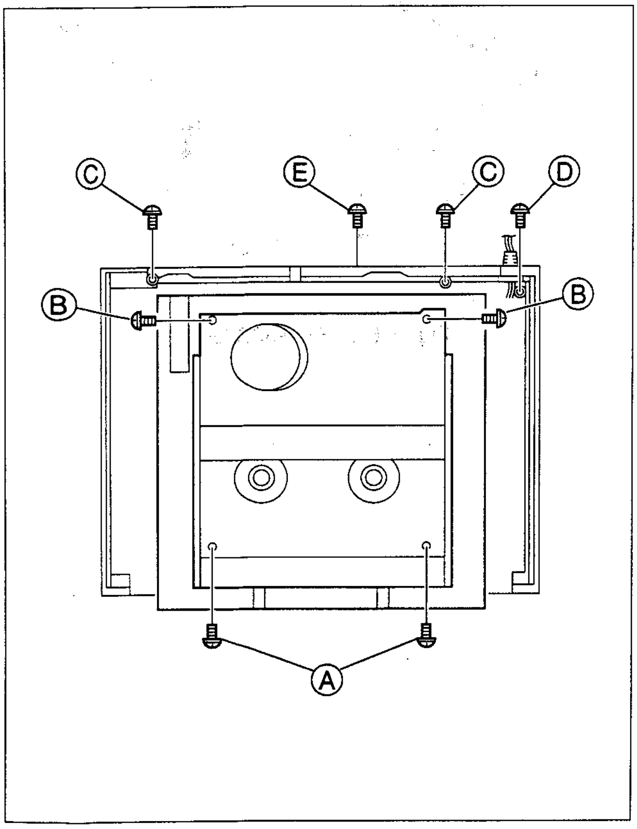


Fig. 1-4-1

(5) Take out 2 screws Ⓒ, 1 screw Ⓓ and 1 screw Ⓔ as shown in Fig. 1-4-1.

(6) Remove the Main board and Mechanism assemblies together while holding the edge of the Main board assembly. At this stage be careful of the power cord and prongs of the jacks on the back side. (See Fig. 1-4-2.)

(7) Remove the Switch/Display board assembly and REC safety board assembly. (Refer to page 1-4 of 1.3 DISASSEMBLY/ASSEMBLY METHOD. Take care not to pull the flat wires (Fig. D6-1) from CN7001, CN7191 and CN7192.)

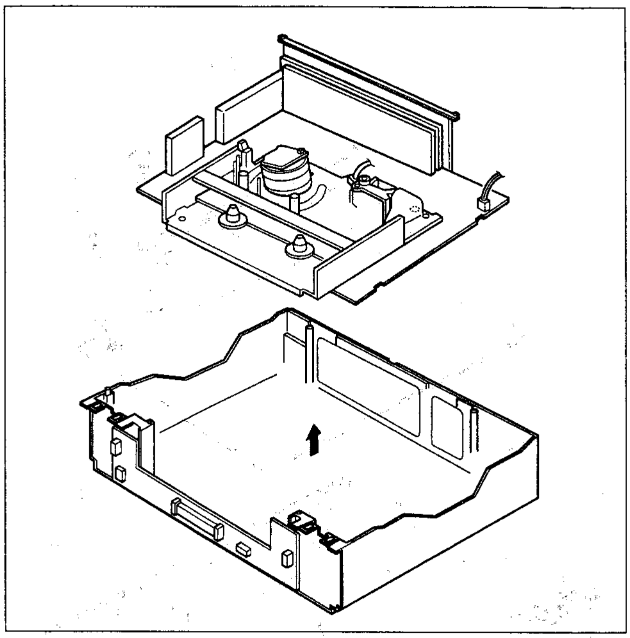


Fig. 1-4-2

(8) Place the Switch/Display board assembly and REC safety board assembly on the front side of the Mechanism and Main board assemblies which was removed at the step (6), then connect the flat wires into CN3011and CN7504 of the Main board assembly and CN7192 of the 3D SVHS board assembly. (Refer to Fig. 1-4-3.)

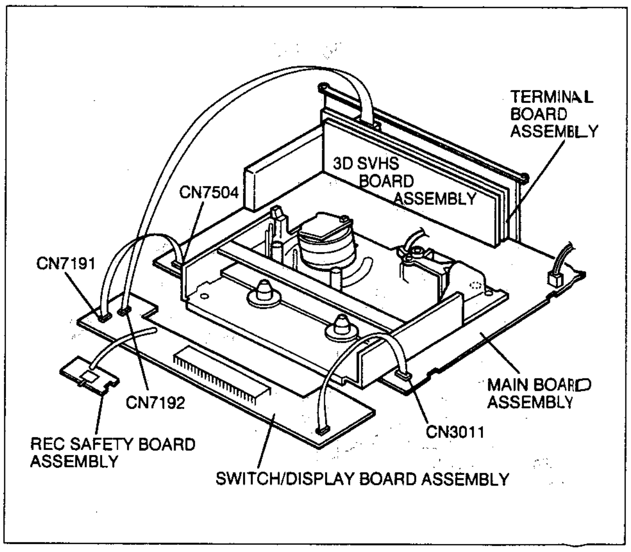


Fig. 1-4-3

(9) Connect the power cord to the wall socket, and lift the cassette holder.
(Before turning on the power make sure that there is nothing which may produce a short circuit, such as faulty soldering.)

Note: *When carrying out diagnosis and repair of the Main board assembly in the service position, be sure to ground both the Main board and the Mechanism assemblies.*

If they are improperly grounded, there may be noise on the playback picture or the FDP counter display may move even when the mechanism is kept in an inoperative status.

1.4.2 How to take out the Mechanism and Main board assemblies [HR-S8600EK]

(1) Remove the Top cover, Bracket, Front panel assembly and JACK board assembly. (See 1.3 DISASSEMBLY/ASSEMBLY METHOD. Take care not to pull the drum wire (Fig.D4) from CN1.)

(2) Lower the cassette holder, and make the preparations required in order to remove the screws from the Mechanism assembly. (Refer to the "Procedures for Lowering the Cassette holder assembly" on pages 1-4 of 1.3 DISASSEMBLY/ASSEMBLY METHOD.)

(3) Take out 2 screws Ⓐ and 2 screws Ⓑ as shown in Fig. 1-4-4.

(4) Remove the flat wires from CN3011 on the Main board assembly.

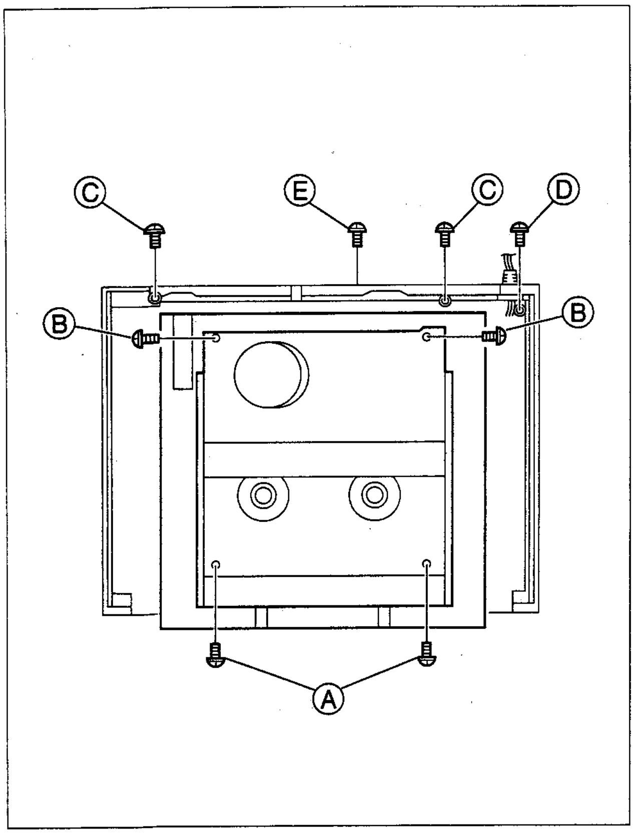


Fig. 1-4-4

(5) Take out 2 screws Ⓒ, 1 screw Ⓓ and 1 screw Ⓔ as shown in Fig. 1-4-4.

(6) Remove the Main board and Mechanism assemblies together while holding the edge of the Main board assembly. At this stage be careful of the power cord and prongs of the jacks on the back side. (See Fig. 1-4-5.)

(7) Remove the Switch/Display board assembly and REC safety board assembly. (Refer to page 1-4 of 1.3 DISASSEMBLY/ASSEMBLY METHOD. Take care not to pull the flat wires (Fig. D6-2) from CN7001.)

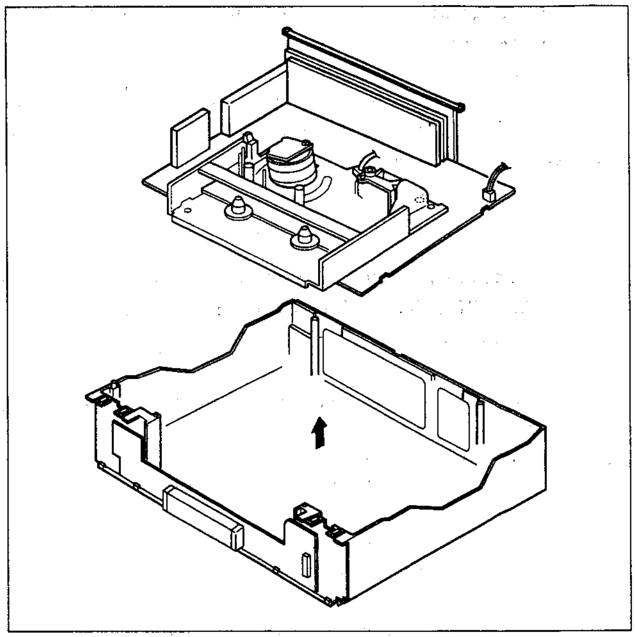


Fig. 1-4-5

(8) Place the Switch/Display board assembly, REC safety board assembly and Jack board assembly on the front side of the Mechanism and Main board assemblies which was removed at the step (6), then connect the flat wires into CN3011 of the Main board assembly, CN7191and CN7192 of the Jack board assembly. (Refer to Fig. 1-4-6.)

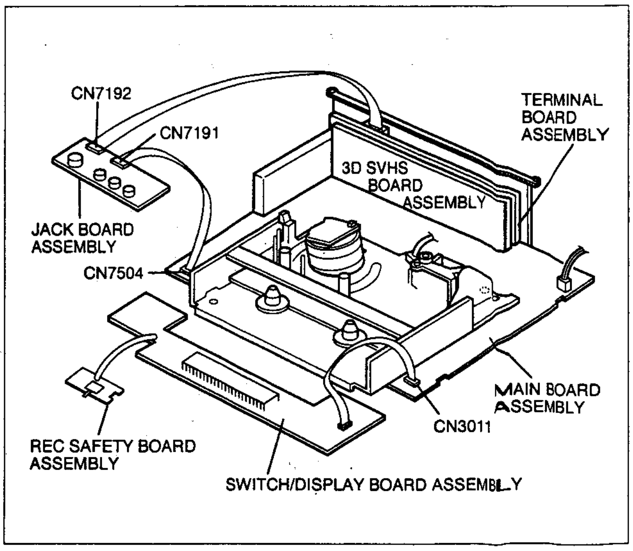


Fig. 1-4-6

(9) Connect the power cord to the wall socket, and lift the cassette holder.
(Before turning on the power make sure that there is nothing which may produce a short circuit, such as faulty soldering.)

Note: *When carrying out diagnosis and repair of the Main board assembly in the service position, be sure to ground both the Main board and the Mechanism assemblies.*

If they are improperly grounded, there may be noise on the playback picture or the FDP counter display may move even when the mechanism is kept in an inoperative status.

1.4.3 Precautions for cassette loading in the "SERVICE POSITION"

The REC safety board assembly detects cassette loading as well as cassette tabs. Therefore, after the assembly has been removed in the "SERVICE POSITION", it is required to set the switch manually on the REC safety board assembly when a cassette is loaded.

1.4.4 Cassette loading and ejection methods in the "SERVICE POSITION"(See Fig. 1-4-3 or Fig. 1-4-6).

(1) Insert a cassette halfway in the Cassette holder assembly.
(2) Set the switch on the REC safety board assembly to ON (by pressing the switch).
(3) As soon as the cassette starts to be loaded, set the switch on the REC safety board assembly to OFF (by releasing the switch).
(4) Now the desired operation (recording, playback, fast forward, rewind, etc.) is possible in this status (the status shown in Fig. 1-4-3 or Fig. 1-4-6).

NOTES:
- *When performing diagnostics of the tape playback or recording condition in the "SERVICE POSITION", enter the desired mode before turning the set upside down, and do not change the mode during diagnostics while the set is placed upside down. If you want to switch the mode, turn the set to the normal position (the status shown in Fig. 1-4-3or Fig. 1-4-6).*
- *When performing fast-forward and rewind, be sure to turn the set to the normal position.*
- ***In the "SERVICE POSITION", the cassette tabs cannot be detected and recording becomes possible even with a cassette with broken tabs such as the alignment tape. Be very careful not to erase important tapes.***

(5) The switch on the REC safety board assembly does not have to be operated when ejecting a tape. But be sure to turn the set to the normal position before ejecting the tape.

1.5 MECHANISM SERVICE MODE

This model has a unique function to enter the mechanism into every operation mode without loading of any cassette tape. This function is called the "MECHANISM SERVICE MODE".

1.5.1 How to set the "MECHANISM SERVICE MODE"

(1) Disconnect VCR from AC.
(2) Connect TPGND and TP7001(TEST) on the Switch/Display board assembly with a jump wire.
(3) Connect VCR to AC.
(4) Press the POWER button.
(5) With lock levers Ⓐ Ⓑ on the left and right of the Cassette holder assembly pulled toward the front, slide the holder in the same direction as the cassette insertion direction. (For the positions of lock levers Ⓐ Ⓑ, refer to the "Procedures for Lowering the Cassette holder assembly" on pages 1-4 of 1.3 DISASSEMBLY/ASSEMBLY METHOD.)
(6) The cassette holder lowers and, when the loading has completed, the mechanism enters the desired mode.

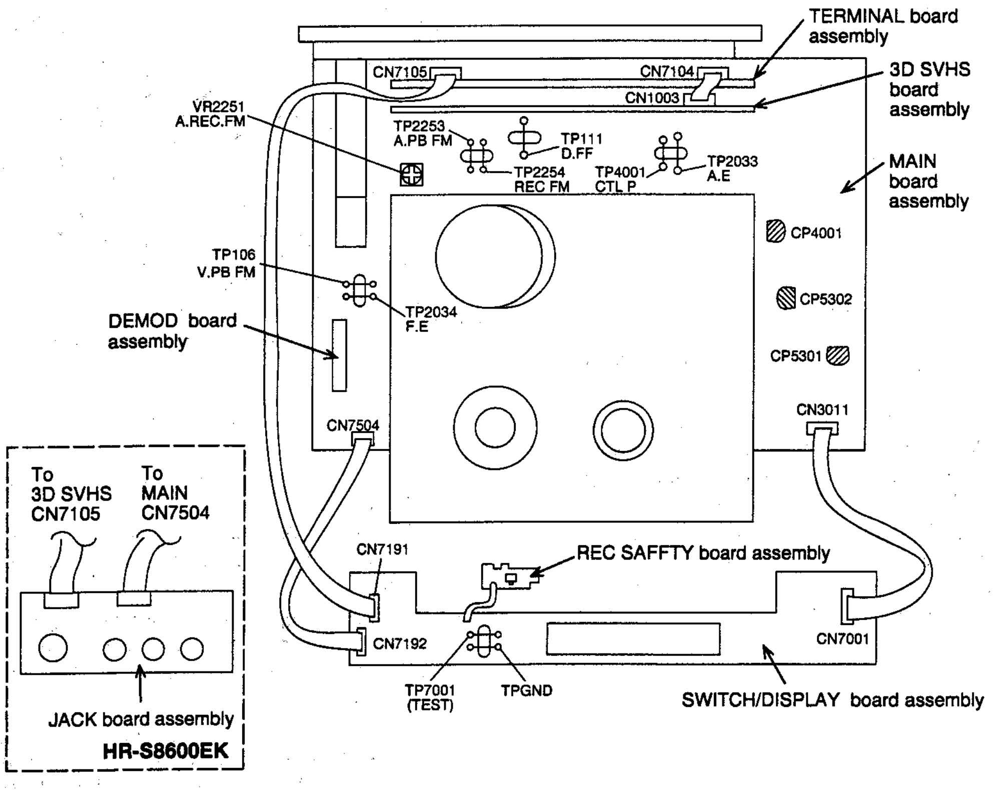

TERMINAL board assembly
3D SVHS board assembly
MAIN board assembly
CN7105
CN7104
CN1003
VR2251 A.REC.FM
TP2253 A.PB FM
TP111 D.FF
TP2254 REC FM
TP4001 CTL P
TP2033 A.E
CP4001
CP5302
CP5301
CN3011
TP106 V.PB FM
TP2034 F.E
DEMOD board assembly
CN7504
CN7191
REC SAFFTY board assembly
CN7192
CN7001
TP7001 (TEST)
TPGND
SWITCH/DISPLAY board assembly
To 3D SVHS CN7105
To MAIN CN7504
JACK board assembly
HR-S8600EK

Fig. 1-5-1

1.6 EMERGENCY DISPLAY FUNCTION

This product has the function to store the last two previous emergency faults which can be displayed in the FDP when servicing.

1.6.1 How to display record of an emergency faults

Note: *Put the unit into A mode by using the VCR remote controller. (When it is in B mode, the preset remote control codes are not accepted.)*

(1) Press the "N" button of the presetting unit and the two previous emergency faults are shown in the FDP.
(2) Press the "N" button of the presetting unit again to return to the normal mode.

[Example] E : 01 : 03
Emergency fault before last
Emergency fault of the last time

[Example] E : — — : — — ← No record of emergency

1.6.3 How to clear emergency record

Press the COUNTER RESET button on the remote controller in the emergency record display mode, and the record of the emergency fault(s) is cleared.

1.6.2 Detail of emergency faults

EMG DATA	Symptom	Detect mode	Resulting mode
E : 01	Loading motor rotates for more than 8 Sec without shift to next mode.	Loading	POWER OFF
E : 02	Loading motor rotates for more than 8 Sec without shift to next mode.	Unloading	POWER OFF
E : 03	TU REEL FG input is absent. (for more than 4 Sec)	REC/PLAY/FF/REW SEARCH FF/SEARCH REW	STOP → POWER OFF
E : 04	DRUM FF input is absent. (for more than 3 Sec)	REC/PLAY/FF/REW SEARCH FF/SEARCH REW	STOP → POWER OFF
E : 06	CAPSTAN FG input is absent. (for more than 4 Sec)	REC/PLAY/FF/REW SEARCH FF/SEARCH REW	STOP → POWER OFF
E : 07	No SWD5V/12V	POWER ON	POWER OFF
E : 08	Initialized action of DD (Dynamic Drum) is not complete for less than 4 seconds.	Connect VCR to AC	STOP
E : 09	DD drive motor is not rotate for more than 2.5 seconds.	on TIME SCAN	STOP

Table 1-6-1 EMERGENCY FAULTS

1.7 SYSCON CIRCUIT

1.7.1 Syscon CPU pin function (IC3001) 1/2

PIN NO.	LABEL	IN/OUT	FUNCTION
1	CTL(+)	IN/OUT	CTL(+) SIGNAL
2	SVSS	-	GND
3	CTL(-)	IN/OUT	CTL(-) SIGNAL
4	CTLBIAS	-	CTL BIAS VOLTAGE
5	CTLFB	IN	CTL PULSE FEEDBACK
6	CTLAMPOUT	OUT	CTL PULSE OUTPUT
7	CTLSMTIN	IN	CTL PULSE INPUT
8	CFG	IN	CAPSTAN FG PULSE INPUT
9	SVCC	-	SYSTEM POWER
10	AVCC	-	SYSTEM POWER FOR ANALOG CIRCUIT
11	NORM/MESEC/S	IN	SVHS MODE:H
12	SECAM DET/KILLER OUT	-	NC
13	VIDEO ENV	IN	AUTO TRACKING DETECT/INPUT THE AVERAGE OF PLAYBACK VIDEO SIGNAL
14	START SENSOR	IN	START SENSOR
15	END SENSOR	IN	END SENSOR
16	IND(L)	IN	AUDIO INPUT (LCH) FOR THE FDP AUDIO INDICATOR
17	DD ABS	IN	DYNAMIC DRUM POSITION DETECT
18	SCR ID	IN	SCRAMBLE CONTROL INPUT (SCRAMBLE:H)
19	IND(R)	IN	AUDIO INPUT (RCH) FOR THE FDP AUDIO INDICATOR
20	BS ANT/AFC	IN	TUNING CLOCK
21	LED/RF AGC	IN	NC/CHANGES IN ATS+IC OUTPUT AS CAUSED BY CHANGES IN RECEIVER SENSITIVITYWHEN THE SAME CHANNEL IS RECEIVED MORE THAN ONCE ARE INPUT.
22	A.ENV/ND(L)	IN	AUDIO PB FM ENV.INPUT/NON HiFi MODE:L
23	AVSS	-	GND FOR ANALOG CIRCUIT
24	CTL GAIN	OUT	CONTROL AMP OUT FREQUENCY RESPONSE SWITCHING
25	LSA	IN	MECHANISM MODE DETECT(A)
26	LSB	IN	MECHANISM MODE DETECT(B)
27	LSC	IN	MECHANISM MODE DETECT(C)
28	CAP REV(L)	OUT	CAPSTAN MOTOR REVERSE CONTROL (FWD:H/REV:L)
29	RC	IN	REMOTE CONTROL DATA INPUT
30	R.PAUSE/COMPU IN	IN	REMOTE PAUSE CONTROL / A/V COMPULINK INPUT
31	P50 IN	IN	CONTROL SIGNAL FOR TV LINK
32	LMC3	OUT	LOADING MOTOR DRIVE(3)
33	P50 OUT/COMPU OUT	OUT	CONTROL SIGNAL FOR TV LINK
34	RAE	OUT	RAE TERMINAL FOR PAUSE OUT
35	LMC1	OUT	LOADING MOTOR DRIVE(1)
36	LMC2	OUT	LOADING MOTOR DRIVE(2)
37	P.CTL(H)	OUT	CONTROL SIGNAL FOR SWITCHING POWER SUPPLY
38	SB G(PWM)	OUT	VOLTAGE CONTROL SIGNAL FOR VIDEO FREQUENCY RESPONSE
39	STB/TEST	OUT	STROBE SIGNAL (FOR FDP DRIVER)
40	POWER DET	IN	DETECTION SIGNAL FOR POWER DOWN OF AC POWER SUPPLY
41	REC SAFETY	IN	REC SAFETY SWITCH DETECT (SW ON:L)
42	PROTECT	IN	DETECTION SIGNAL FOR SW POWER SUPPLY
43	VSS	-	GND
44	TRICK(H)	OUT	SPECIAL PLAYBACK:H
45	VCC	-	SYSTEM POWER
46	N.REC(H)	OUT	NORMAL AUDIO REC MODE CONTROL (REC:H)
47	SUB DATA	IN/OUT	SERIAL DATA TRANSFER OUTPUT FOR SUB CPU
48	SUB CLK	OUT	SERIAL DATA TRANSFER CLOCK FOR SUB CPU
49	I2C DATA	IN/OUT	SERIAL DATA TRANSFER OUTPUT FOR THE ON-SCREEN IC
50	I2C CLK	OUT	SERIAL DATA TRANSFER CLOCK FOR THE ON-SCREEN IC
51	S.DATA TOSYS	IN	SERIAL DATA TRANSFER OUTPUT FROM THE ON-SCREEN IC TO THE FDP DRIVER
52	S.DATA FRSYS	OUT	SERIAL DATA TRANSFER OUTPUT FROM THE FDP DRIVER TO THE ON-SCREEN IC
53	S.CLK	OUT	SERIAL DATA TRANSMISSION CLOCK FROM THE FDP DRIVER TO THE ON-SCREEN IC
54	SP FG	IN	DETECTION SIGNAL FOR SUPPLY REEL ROTATION/TAPE REMAIN
55	TU FG	IN	DETECTION SIGNAL FOR TAKE-UP REEL ROTATION/TAPE REMAIN
56	LOCK(L)	IN	TUNING PLL LOCK DETECT: L

Table 1-7-1 SYSCON CPU pin function(1/2)

1.7.2 Syscon CPU pin function (IC3001) 2/2

PIN NO.	LABEL	IN/OUT	FUNCTION
57	TU CE	OUT	CHIP ENABLE OF THE TUNER UNIT
58	JUST CLK/CCIR(H)	-	NC
59	DDFG	IN	DYNAMIC DRUM FG INPUT
60	TU CLK	OUT	CLOCK FOR DATA TRANSFER TO THE TUNER UNIT
61	TU DATA	OUT	TUNING DATA
62	FWE	-	NC
63	NMI(L)/OPERATE SW	IN	DETECTION SIGNAL DURING PRESSING THE SWITCHES ON THE MEMBRANE DOOR (DETECTED: L, THE SIGNAL FROM IR RECEIVER CANNOT BE RECEIVED)
64	X2	-	TIMER CLOCK (32.768KHz)
65	X1	-	TIMER CLOCK (32.768KHz)
66	RES(L)	-	RESET TERMINAL (RESET ON:L)
67	OSC1(IN)	-	MAIN SYSTEM CLOCK(10MHz)
68	VSS	-	GND
69	OSC2(OUT)	-	MAIN SYSTEM CLOCK(10MHz)
70	VCC	-	SYSTEM POWER
71	MODE	-	NC
72	TU A MUTE(H)	OUT	TUNER AUDIO MUTE CONTROL (MUTE:H)
73	TU V MUTE(H)	OUT	TUNER VIDEO CONTROL (MUTE:H)
74	A.MUTE(H)	OUT	AUDIO MUTE CONTROL (MUTE:H)
75	I2C CLK2	OUT	SERIAL DATA TRANSFER CLOCK FOR MEMORY IC
76	I2C DATA2	IN/OUT	SERIAL DATA TRANSFER OUTPUT FOR MEMORY IC
77	DDCFWD	OUT	DYNAMIC DRUM CONTROL(FORWARD)
78	DDCREV	OUT	DYNAMIC DRUM CONTROL(REVERSE)
79	DDSPDCTL	OUT	DYNAMIC DRUM SPEED CONTROL
80	V.P.CTL	OUT	V.PULSE CONTROL, V COMPENSATION DURING SPECIAL PLAYBACK
81	ET REC(H)	-	NC
82	VCC	-	SYSTEM POWER
83	SLOW P	OUT	MEMORY TIMING CONTROL IN THE SLOW MODE
84	VSS	-	GND
85	SP SHORT(H)	-	NC
86	LP SHORT(H)	-	NC
87	FLY ON(H)	OUT	FLYING ERASE ON:H
88	A.REC ST(H)	OUT	HIFI AUDIO SOUND RECORDING START
89	SECAM(H)	-	NC
90	HEAD SEL	OUT	HEAD SELECT(LP HEAD:H, SP HEAD:L)
91	OSD CS	OUT	CHIP SELECT FOR THE ON-SCREEN IC
92	SYNC DET(H)	IN	DETECTION OF VIDEO SYNC SIGNAL (DETECTED:H)
93	P.MUTE(L)	OUT	PICTURE MUTE CONTROL (MUTE:L)
94	JSB/STLB	IN	INPUT FOR THE JOG SHUTTLE
95	SHTL(L)/JOGA	IN	INPUT FOR THE JOG SHUTTLE
96	JOGB	IN	INPUT FOR THE JOG SHUTTLE
97	JSA/STLA	IN	INPUT FOR THE JOG SHUTTLE
98	C.SYNC	IN	COMPOSITE SYNC
99	A.FF	OUT	AUDIO FF OUTPUT
100	V.FF	OUT	ROTATION DETECTION SIGNAL FOR DRUM MOTOR/TIMING CONTROL SIGNAL FOR REC
101	CAPPWM	OUT	CAPSTAN MOTOR CONTROL
102	DRUMPWM	OUT	DRUM MOTOR CONTROL
103	SUB RESET/V.UP(H)	OUT	SUB CPU RESET(RESET:L)/NC
104	S.CASS(H)	IN	DETECTION SIGNAL FOR SVHS CASSETTE (SVHS:H)
105	PERI 1S	IN	INPUT FOR THE TERMINAL SLIDE SW POSI IN THE SAT MODE
106	LOCK(L)/P.SAVE(L)	OUT	NC/POWER SAVE:L
107	DPG	IN	DRUM PICKUP PULSE INPUT (SWITCHING PULSE)
108	DFG	IN	DRUM FG PULSE INPUT
109	VCC	-	SYSTEM POWER
110	V.PULSE	OUT	V.PULSE ADDITION TIMING CONTROL
111	VSS	-	GND
112	CTLREF	-	CTL REFERENCE VOLTAGE

Table 1-7-2 SYSCON CPU pin function(2/2)

SECTION 2
MECHANISM ADJUSTMENT

2.1 BEFORE STARTING REPAIR AND ADJUSTMENT

2.1.1 Precautions

(1) Unplug the power cable of the main unit before using your soldering iron.
(2) Take care not to cause any damage to the conductor wires when plugging and unplugging the connectors.
(3) Do not randomly handle the parts without identifying where the trouble is.
(4) Exercise enough care not to damage the lugs, etc. during the repair work.
(5) When installing the front panel assembly, be sure to hook the lug on the back side of the cassette door to the door opener of the cassette holder. If this operation is neglected it will not be possible to remove the cassette when ejecting because the housing door cannot be opened.

2.1.2 Checking for Proper Mechanical Operations

Enter the mechanism service mode when you want to operate the mechanism when no cassette is loaded. (See 1.5 MECHANISM SERVICE MODE.)

2.1.3 Manually Removing the Cassette Tape

1. In case of electrical failures

If you cannot remove the cassette tape which is loaded because of any electrical failure, manually remove it by taking the following steps.

(1) Unplug the power cable and remove the top cover, bracket and front panel assembly. (See 1.3 DISASSEMBLY/ASSEMBLY METHOD.)
(2) Unload the cassette by manually turning the loading motor of the mechanism assembly toward the front. In doing so, hold the tape by the hand to keep the slack away from any grease. (See Fig.2-1-1.)
(3) Bring the pole base assembly (supply or take-up side) to a pause when it reaches the position where it is hidden behind the cassette tape.
(4) Move the top guide toward the drum while holding down the lug Ⓐ of the bracket retaining the top guide. Likewise hold part Ⓑ down and remove the top guide. Section Ⓒ of the top guide is then brought under the cassette lid. Then remove the top guide by pressing the whole cassette tape down. (See Fig.2-1-2.)
(5) Remove the cassette tape by holding both the slackened tape and the cassette lid.
(6) Take up the slack of the tape into the cassette. This completes removal of the cassette tape.

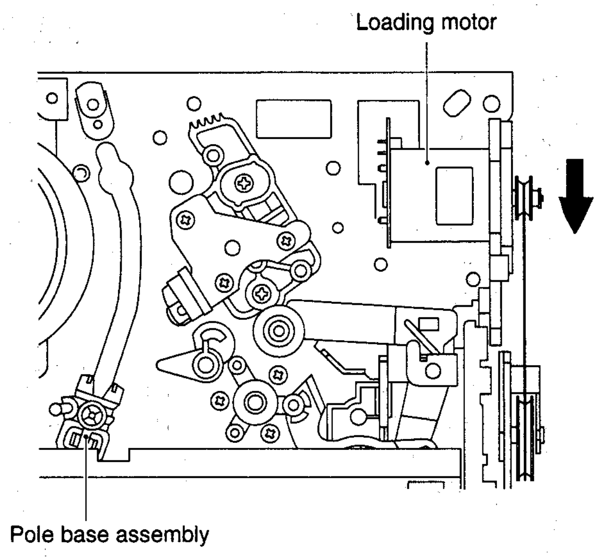


Fig. 2-1-1

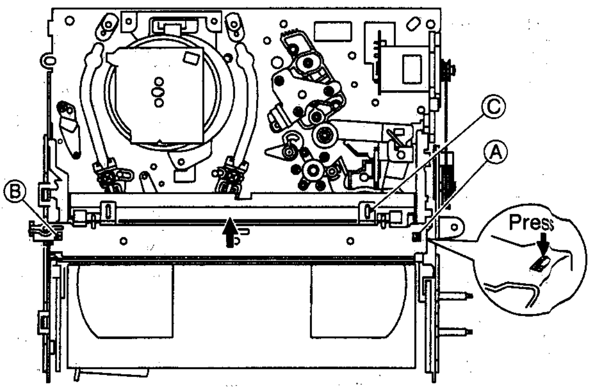


Fig. 2-1-2

2. In case of mechanical failure

If you cannot remove the cassette tape which is loaded because of any mechanical failure, manually remove it by taking the following steps.

(1) Unplug the power cable and remove the top cover, front panel assembly and others so that the mechanism assembly is visible. (See 1.3 DISASSEMBLY/ASSEMBLY METHOD.)

(2) While keeping the tension arm assembly of the mechanism assembly free from tension, pull the tape on the pole base assembly (supply or take-up side) out of the guide roller. (See Fig.2-1-3.)

(3) Take the spring of the pinch roller arm assembly off the hook of the press lever assembly, and detach it from the tape. (See Fig.2-1-4.)

(4) In the same way as in the electrical failure instructions in 2.1.3 (4), remove the top guide.

(5) Raise the cassette tape cover. By keeping it in that position, draw out the cassette tape case from the cassette holder and take out the tape.

(6) By hanging the pinch roller arm assembly spring back on the hook, take up the slack of the tape into the cassette.

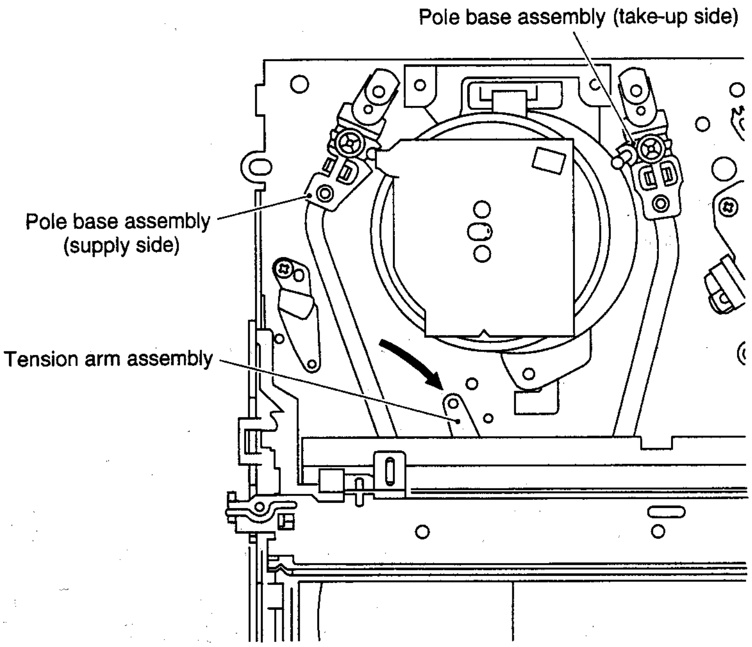

Pole base assembly (take-up side)
Pole base assembly (supply side)
Tension arm assembly

Fig. 2-1-3

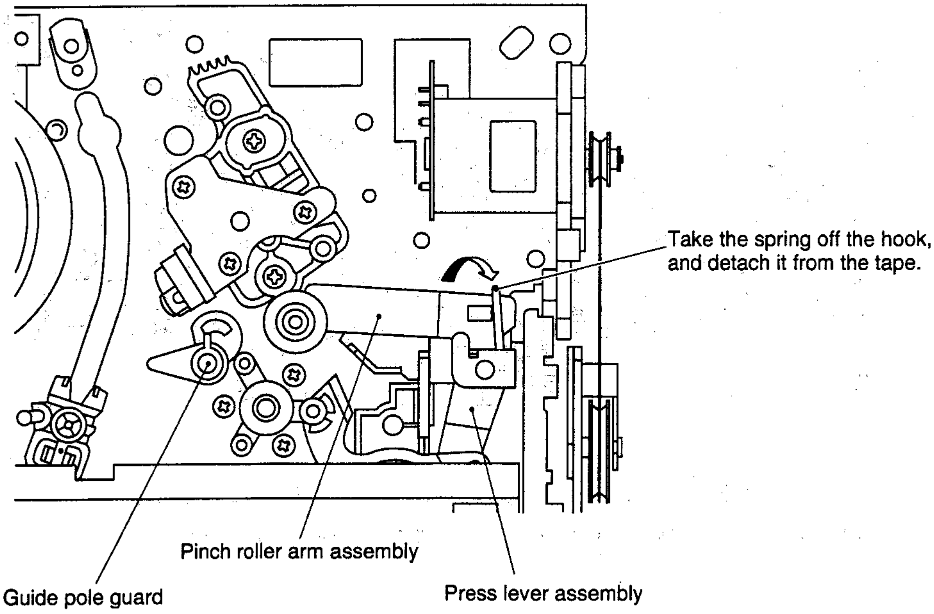

Take the spring off the hook, and detach it from the tape.
Pinch roller arm assembly
Guide pole guard
Press lever assembly

Fig. 2-1-4

2.1.4 Jigs and Tools Required for Adjustment

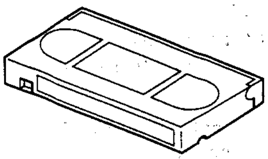
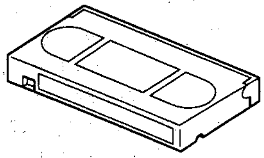
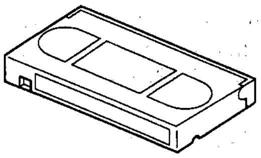
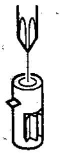
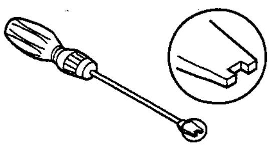
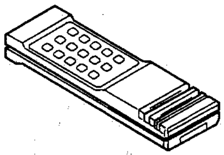
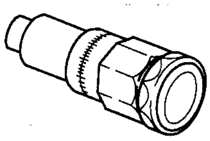
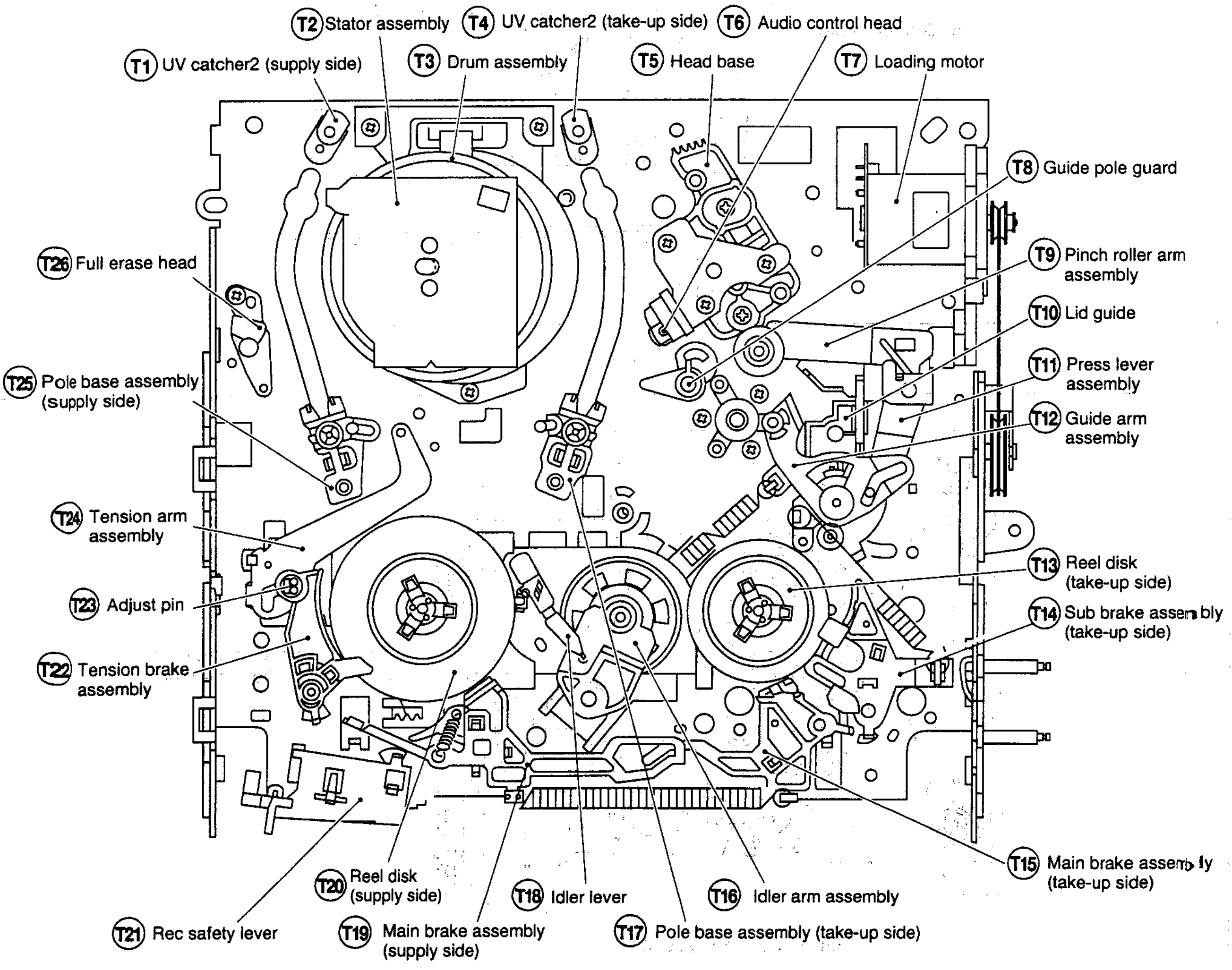
Alignment tape (SP) MHPE	Alignment tape (LP) MHPE-L	Back tension cassette gauge PUJ48076-2	A/C head position bit PTU94010
			
Roller driver PTU94002	Presetting unit PTU94008	Torque gauge PUJ48075-2	
			

Table 2-1-1 Jigs and tools required for adjustment

2.1.5 Maintenance and Inspection

1. Location of major mechanical parts



T1 UV catcher2 (supply side)
T2 Stator assembly
T3 Drum assembly
T4 UV catcher2 (take-up side)
T5 Head base
T6 Audio control head
T7 Loading motor
T8 Guide pole guard
T9 Pinch roller arm assembly
T10 Lid guide
T11 Press lever assembly
T12 Guide arm assembly
T13 Reel disk (take-up side)
T14 Sub brake assembly (take-up side)
T15 Main brake assembly (take-up side)
T16 Idler arm assembly
T17 Pole base assembly (take-up side)
T18 Idler lever
T19 Main brake assembly (supply side)
T20 Reel disk (supply side)
T21 Rec safety lever
T22 Tension brake assembly
T23 Adjust pin
T24 Tension arm assembly
T25 Pole base assembly (supply side)
T26 Full erase head

Fig. 2-1-5 Mechanism assembly top side

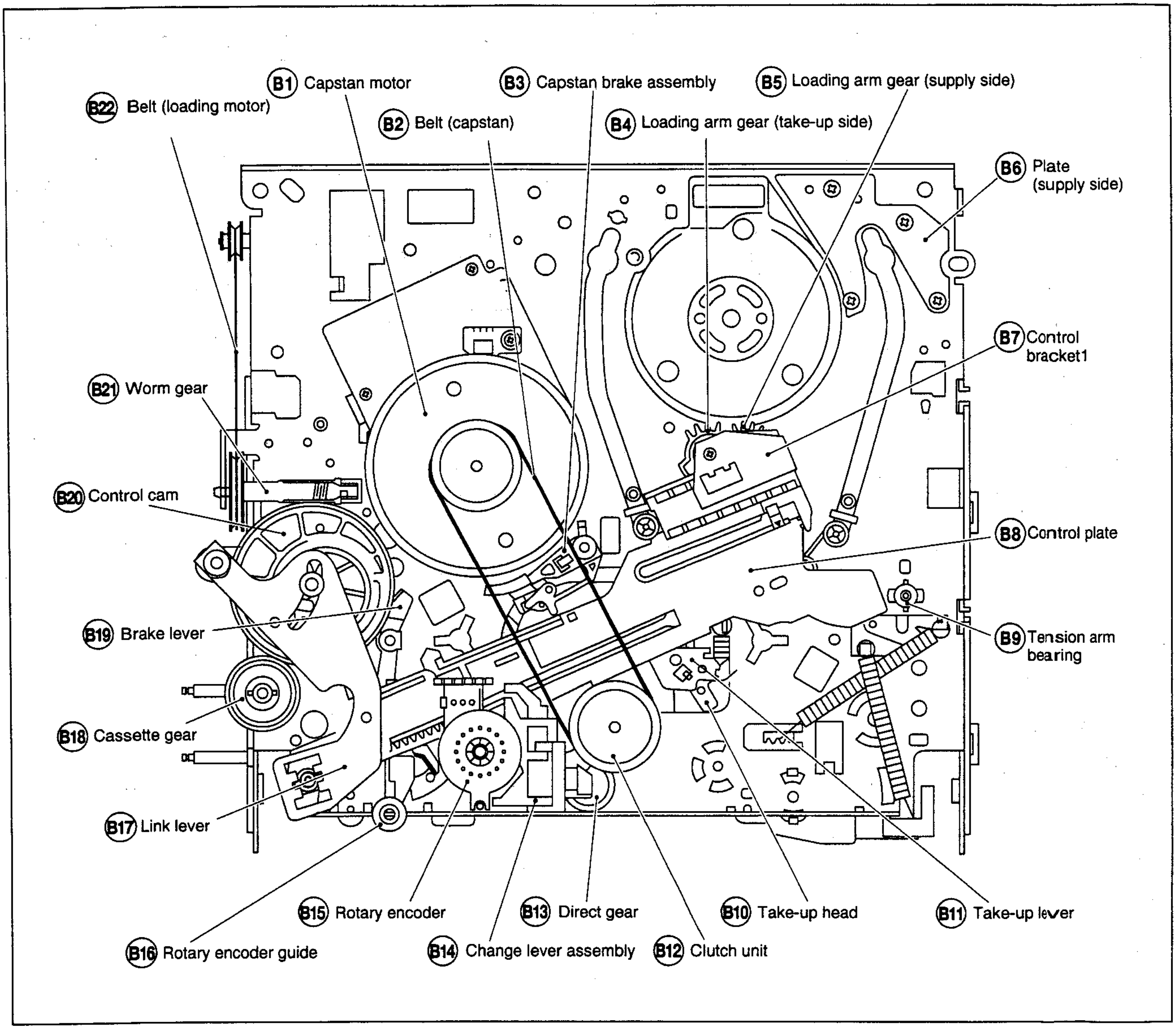

(B1) Capstan motor
(B2) Belt (capstan)
(B3) Capstan brake assembly
(B4) Loading arm gear (take-up side)
(B5) Loading arm gear (supply side)
(B6) Plate (supply side)
(B7) Control bracket1
(B8) Control plate
(B9) Tension arm bearing
(B10) Take-up head
(B11) Take-up lever
(B12) Clutch unit
(B13) Direct gear
(B14) Change lever assembly
(B15) Rotary encoder
(B16) Rotary encoder guide
(B17) Link lever
(B18) Cassette gear
(B19) Brake lever
(B20) Control cam
(B21) Worm gear
(B22) Belt (loading motor)

Fig. 2-1-6 Mechanism assembly bottom side

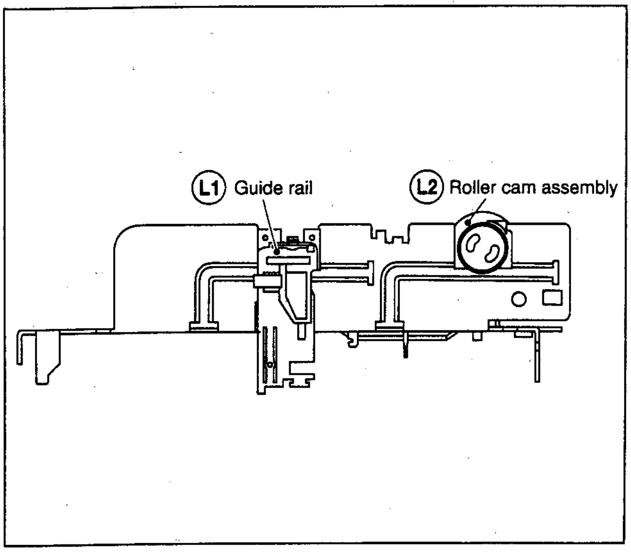

(L1) Guide rail
(L2) Roller cam assembly

Fig. 2-1-7 Mechanism assembly left side

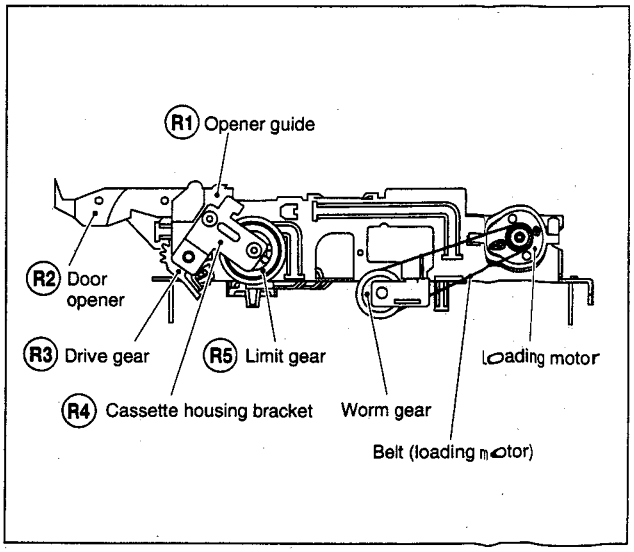

(R1) Opener guide
(R2) Door opener
(R3) Drive gear
(R4) Cassette housing bracket
(R5) Limit gear
Worm gear
Loading motor
Belt (loading motor)

Fig. 2-1-8 Mechanism assembly right side

Note: *This table shows the order in which parts are removed for replacement. To replace parts, remove them in the order of 1 to 18 as shown in the table. To install them, reverse the removal sequence.*
The circled numbers (symbols and numbers) preceding the individual part names represent the numbers in the "Location of major mechanical parts" table. Also, the "T", "B", and "T/B" on the right of each part name shows that the particular part is removed from the front, from the back, and from both sides of the mechanism, respectively.

	Symbols and numbers			(L1)	(L2)	(R4)	(R1)	–	–	(R3)	–	(T9)	(T12)	(T11)	(T1)(T4)	(B15)	(B12)	(B14)	(B13)	(B17)	(B21)	(B7)	(B8)	(B5)	(B4)	(B11)	(T14)	(T15)	(T13)	(T22)	(T24)	(T18)	(B19)
Symbols and numbers	Removal parts (Reference items) Replacement parts	Front (T)/Back (B) of mechanism	Number of removal steps	Guide rail	Roller cam assembly	Cassette housing bracket	Opener guide	Relay gear	Cassette holder assembly	Drive gear	Drive arm	Pinch roller arm assembly	Guide arm assembly	Press lever assembly	UV catcher2	Rotary encoder	Clutch unit	Change lever assembly	Direct gear	Link lever	Worm gear	Control bracket1	Control plate	Loading arm gear (supply side)	Loading arm gear (take-up side)	Take-up lever	Sub brake assembly (take-up side)	Main brake assembly (take-up side)	Reel disk (take-up side)	Tension brake assembly	Tension arm assembly	Idler lever	Brake lever
(L1)	2.2.3 Guide rail	T	1																														
(L2)	2.2.3 Roller cam assembly	T	1																														
(R4)	2.2.3 Cassette housing bracket	T	1																														
(R1)	2.2.3 Opener guide	T	2			1																											
(R2)	2.2.3 Door opener	T	3			1	2																										
–	2.2.3 Relay gear	T	3			1	2																										
(R5)	2.2.3 Limit gear	T	3			1	2																										
–	2.2.3 Cassette holder assembly	T	6	1	2	3	4	5																									
(R3)	2.2.3 Drive gear	T	4			1	2	3																									
–	2.2.3 Drive arm	T	8	1	2	3	4	5	6	7																							
(T9)	2.2.4 Pinch roller arm assembly	T	1																														
(T12)	2.2.5 Guide arm assembly	T	1																														
(T11)	2.2.5 Press lever assembly	T	3									1	2																				
(T6)	2.2.6 Audio control head	T	1																														
(T7)	2.2.7 Loading motor	T	1																														
(B1)	2.2.8 Capstan motor	T/B	1																														
(T1)(T4)	2.2.9 UV catcher2	T	1																														
(T17)	2.2.9 Pole base assembly (take-up side)	T/B	2												1																		
(T25)	2.2.9 Pole base assembly (supply side)	T/B	2												1																		
(B15)	2.2.10 Rotary encoder	B	1																														
(B12)	2.2.11 Clutch unit	B	1																														
(B14)	2.2.12 Change lever assembly	B	3													1	2																
(B13)	2.2.12 Direct gear	B	4													1	2	3															
–	2.2.12 Clutch gear1	B	5													1	2	3	4														
(B17)	2.2.13 Link lever	B	1																														
(B18)	2.2.14 Cassette gear	B	2																	1													
(B20)	2.2.14 Control cam	B	2																	1													
(B21)	2.2.14 Worm gear	B	1																														
(T10)	- Lid guide	T/B	5									1	2	3							4												
(B7)	2.2.15 Control bracket1	B	1																														
(B8)	2.2.15 Control plate	B	6													1	2	3		4		5											
(B5)	2.2.16 Loading arm gear (supply side)	B	7													1	2	3		4		5	6										
(B4)	2.2.16 Loading arm gear (take-up side)	B	8													1	2	3		4		5	6	7									
–	2.2.16 Loading arm gear shaft	B	9													1	2	3		4		5	6	7	8								
(B11)	2.2.17 Take-up lever	T/B	7													1	2	3		4		5	6										
(B10)	2.2.17 Take-up head	T/B	8													1	2	3		4		5	6			7							
–	2.2.17 Control plate guide	T/B	8													1	2	3		4		5	6			7							
(B3)	2.2.18 Capstan brake assembly	T/B	7													1	2	3		4		5	6										
(T14)	2.2.19 Sub brake assembly(take-up side)	T/B	15	1	2	3	4	5	6	7	8					9	10	11		12		13	14										
(T15)	2.2.20 Main brake assembly(take-up side)	T/B	16	1	2	3	4	5	6	7	8					9	10	11		12		13	14				15						
(T19)	2.2.20 Main brake assembly(supply side)	T/B	9	1	2	3	4	5	6	7	8																						
(T13)	2.2.20 Reel disk (take-up side)	T/B	16	1	2	3	4	5	6	7	8					9	10	11		12		13	14				15						
(T22)	2.2.21 Tension brake assembly	T/B	9	1	2	3	4	5	6	7	8																						
(T20)	2.2.21 Reel disk (supply side)	T/B	10	1	2	3	4	5	6	7	8																			9			
(T24)	2.2.21 Tension arm assembly	T/B	10	1	2	3	4	5	6	7	8																			9			
(B9)	2.2.21 Tension arm bearing	T/B	10	1	2	3	4	5	6	7	8																			9			
(T18)	2.2.22 Idler lever	T/B	17	1	2	3	4	5	6	7	8					9	10	11		12		13	14							15	16		
(T16)	2.2.22 Idler arm assembly	T/B	18	1	2	3	4	5	6	7	8					9	10	11		12		13	14							15	16	17	
(B19)	- Brake lever	T/B	18	1	2	3	4	5	6	7	8					9	10	11		12		13	14				15	16	17				
(B16)	- Rotary encoder guide	T/B	19	1	2	3	4	5	6	7	8					9	10	11		12		13	14				15	16	17				18

2. Cleaning

Regular cleaning of the transport system parts is desirable but practically impossible. So make it a rule to carry out cleaning of the tape transport system whenever the machine is serviced.
When the video head, tape guide and/or brush get soiled, the playback picture may appear inferior or at worst disappear, resulting in possible tape damage.

(1) When cleaning the upper drum (especially the video head), soak a piece of closely woven cloth or Kimu-wipe with alcohol and while holding the cloth onto the upper drum by the fingers, turn the upper drum counterclockwise.

Note: ***Absolutely avoid sweeping the upper drum vertically as this will cause damage to the video head.***

(2) To clean the parts of the tape transport system other than the upper drum, use a piece of closely woven cloth or a cotton swab soaked with alcohol.
(3) After cleaning, make sure that the cleaned parts are completely dry before using the video tape.

3. Lubrication

With no need for periodical lubrication, you have only to lubricate new parts after replacement. If any oil or grease on contact parts is soiled, wipe it off and newly lubricate the parts.

(1) See the mechanism assembly and disassembly diagrams (M4) for the lubricating or greasing spots. See Table 2-1-2 for the types of oil or grease to be used.

Type	Name	Serial No.	Symbols on the disassembly diagrams
Grease	Maltemp SH-P	KYODO-SH-P	AA
Oil	Cosmohydro HV56	COSMO-HV56	BB

Table 2-1-2 Grease and oil used for the unit

4. Suggested servicing schedule for main components

The following table indicates the suggested period for such service measures as cleaning,lubrication and replacement. In practice, the indicated periods will vary widely according to environmental and usage conditions.However, the indicated components should be inspected when a set is brought for service and the maintenance work performed if necessary. Also note that rubber parts may deform in time,even if the set is not used.

System	Parts Name	Operation Hours	
		~1000H	~2000H
Tape transport	Upper drum assembly	★○	○
	A/C head	★○	★○
	Lower drum assembly	★	★○
	Pinch roller arm assembly	★	★
	Full erase head	★	★
	Tension arm assembly	★	★
	Capstan motor (Shaft)	★	★
	Guide arm assembly	★	★
Drive	Capstan motor		○
	Capstan brake assembly		○
	Main brake assembly		○
	Belt (Capstan)	○	○
	Belt (Loading motor)		○
	Loading motor		○
	Clutch unit		○
	Worm gear		○
	Control plate		○
Other	Brush	★○	★○
	Tension brake assembly	○	○
	Rotary encoder		○

★: Cleaning
○: Inspection or Replacement if necessary

Table 2-1-3

2.2 REPLACEMENT OF MAJOR PARTS

2.2.1 Before Starting Disassembling (Phase matching between mechanical parts)

The mechanism of this unit is closely linked with the rotary encoder and system controller circuits.
Since the system controller detects the status of mechanical operation in response to phases of the rotary encoder (internal switch positions), the mechanism may not operate properly unless such parts as the rotary encoder, control plate, loading arm gear, control cam, cassette gear, limit gear, relay gear and drive gear are installed in their correct positions.
Especially, this model is not provided with any cassette housing assembly, so that cassette loading and unloading must be accomplished by operation of the cassette holder assembly. The latter is in turn driven by such parts as the drive gear, relay gear and limit gear. Exercise enough care, therefore, to have the phases of all this gear matching one another.
(For information on phase matching of the mechanism, see the instructions on how to install individual parts.)

This unit is provided with a mechanism assembly mode. It is therefore necessary to enter this mode for assembling and disassembling procedures.
This mode is usually not in use, manually set it when it is required.

2.2.2 How to Set the Mechanism Assembling Mode

Remove the mechanism assembly and place it bottom side up. (See SECTION 1 DISASSEMBLY.) Turn the worm gear toward the front so that the guide hole of the control cam is brought into alignment with the hole at the mechanism assembly chassis. This position renders the mechanism assembling mode operational. Make sure that the control plate is located in alignment with the mark E. (See Fig.2-2-1.)

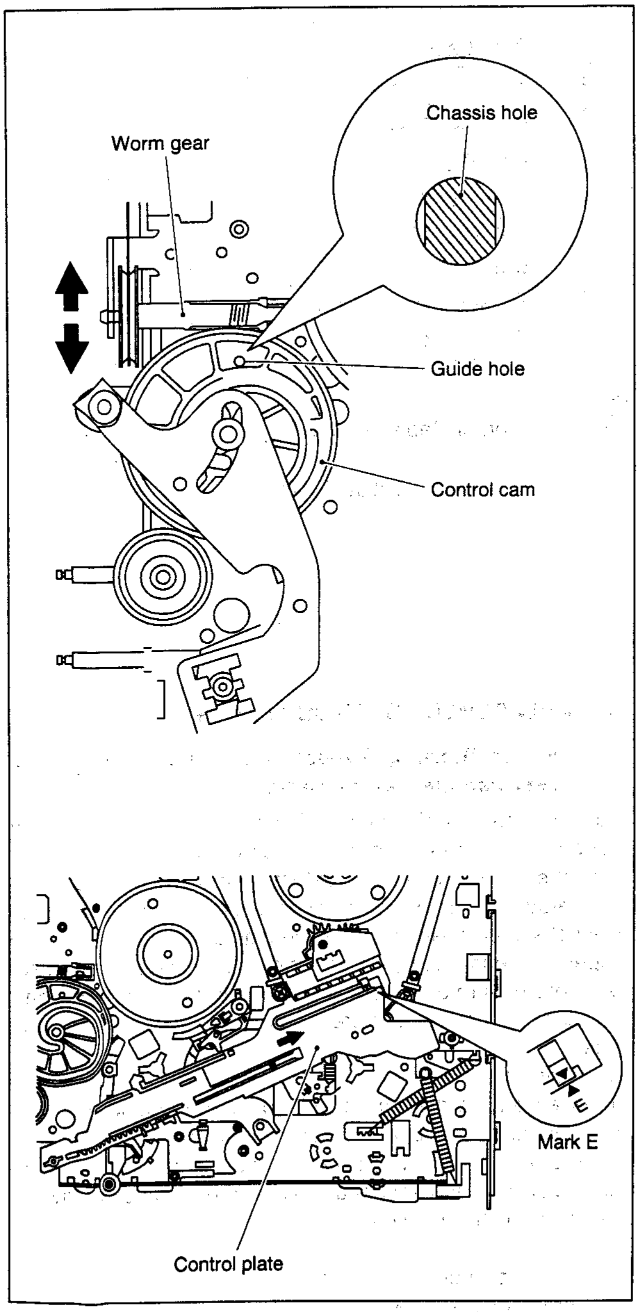

Chassis hole
Worm gear
Guide hole
Control cam
Mark E
Control plate

Fig. 2-2-1

2.2.3 Cassette Holder Assembly

1. How to remove

(1) Remove the guide rail and roller cam assembly. (See Fig.2-2-2.)
(3 lugs on the guide rail and one lug on the roller cam assembly)

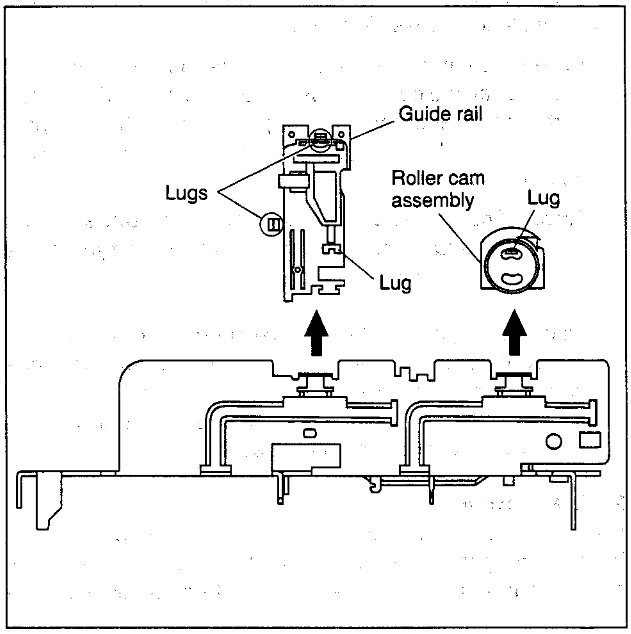

Guide rail
Lugs
Roller cam assembly
Lug
Lug

Fig. 2-2-2

(2) Remove the two slit washers and remove the cassette housing bracket. (See Fig.2-2-3.)
(3) Remove the opener guide, spring(A), door opener, relay gear and limit gear. (See Fig.2-2-3.)

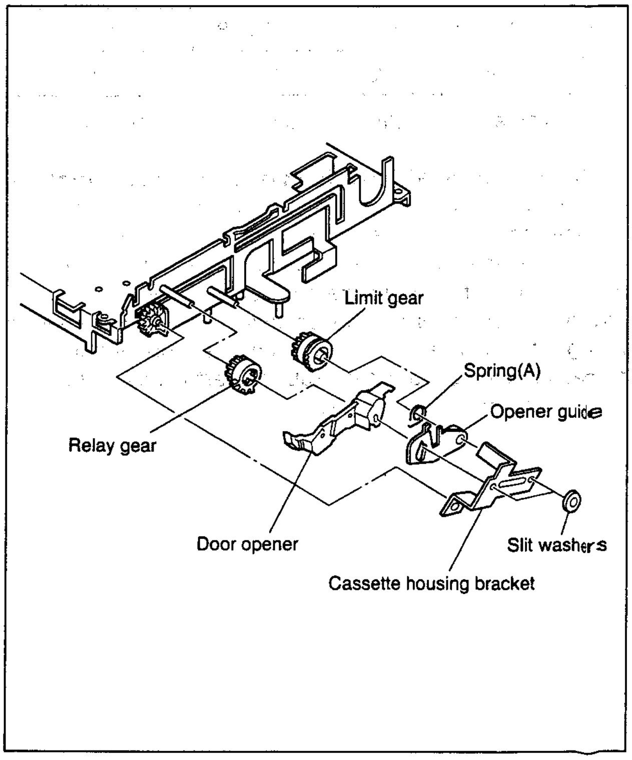

Limit gear
Spring(A)
Opener guide
Relay gear
Door opener
Slit washers
Cassette housing bracket

Fig. 2-2-3

(4) While swinging the lock levers (R) and (L) of the cassette holder assembly toward the front, slide the cassette holder assembly until its legs come to where the guide rail and the roller cam assembly have been removed (so that the drive arm is upright). (See Fig.2-2-4.)

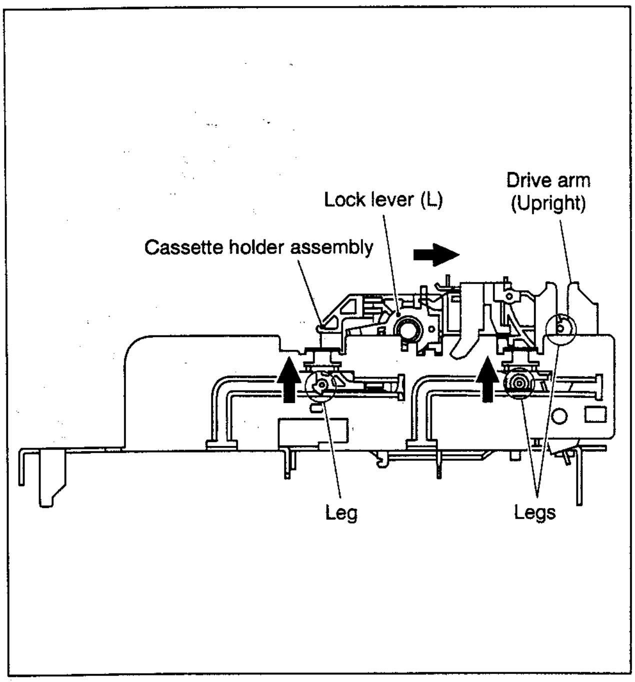

Drive arm
(Upright)
Lock lever (L)
Cassette holder assembly
Leg
Legs

Fig. 2-2-4

(5) While holding the left side of the cassette holder, lift the cassette holder assembly so that the three legs on the left side are all released. Then pull the legs Ⓐ and Ⓑ on the right side out of the rail and also pull up the leg Ⓒ. (See Fig.2-2-5 and Fig.2-2-6.)

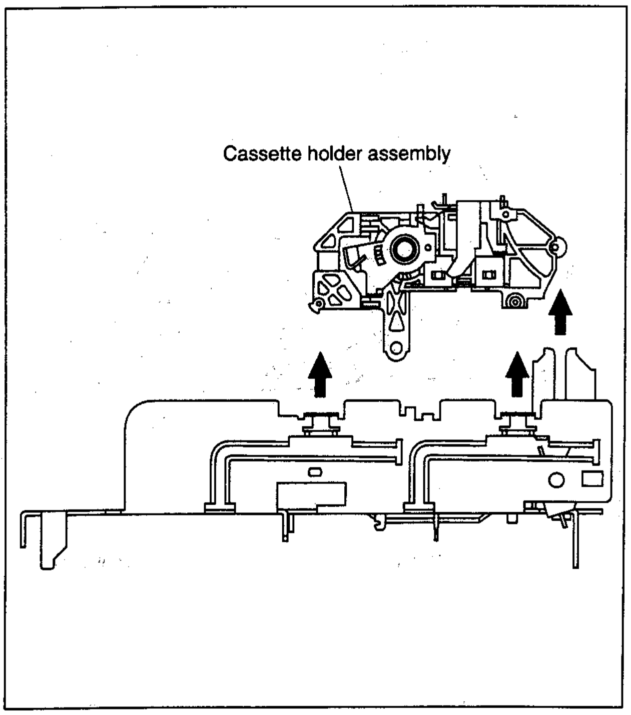

Cassette holder assembly

Fig. 2-2-5

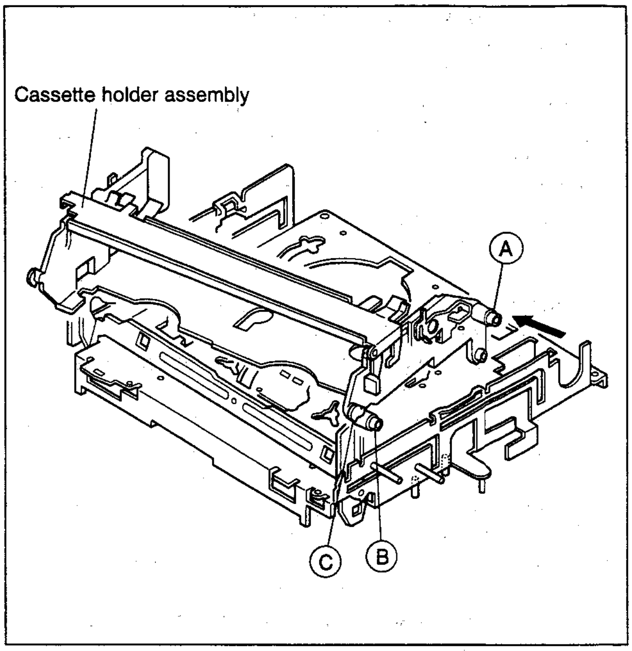

Cassette holder assembly
Ⓐ
Ⓒ
Ⓑ

Fig. 2-2-6

(6) Draw out the drive gear, and remove the drive arm.

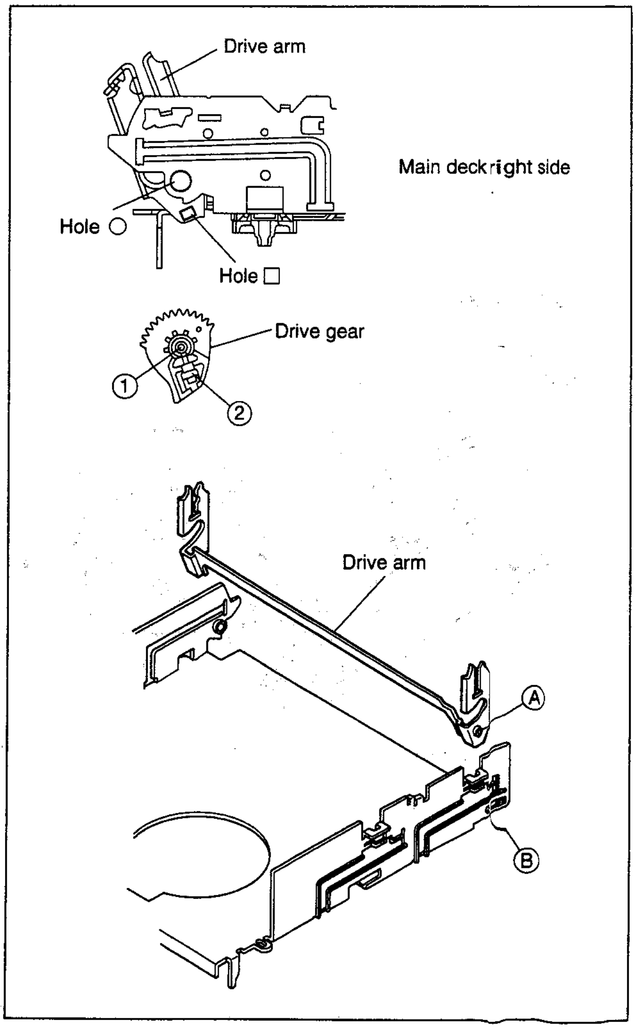

Drive arm
Main deck right side
Hole ○
Hole □
Drive gear
①
②
Drive arm
Ⓐ
Ⓑ

Fig. 2-2-7

2. How to install (Phase matching)

(1) Insert the section Ⓐ of the drive arm into the section Ⓑ of the main deck.

(2) Insert the section ① of the drive gear into the round hole, and the section ② into the square hole on the drive arm. (See Fig.2-2-7.)

(3) Hold the drive arm upright and fit the leg Ⓒ on the right side of the cassette holder assembly into the groove. (See Fig.2-2-8.)

(4) While swinging the lock lever (R) of the cassette holder assembly toward the front, put the legs Ⓐ and Ⓑ into the rail. (See Fig.2-2-8.)

(5) Drop the three legs on the left side of the cassette holder assembly into the groove at one time. (See Fig.2-2-9.)

(6) Slide the whole cassette holder assembly toward the front to bring it to the eject end position.

(7) Install the limit gear so that the notch on the outer circumference of the limit gear is brought into alignment with the guide hole on the main deck. (See Fig.2-2-10.)

(8) Install so that the notch on the periphery of the relay gear is aligned with the notch of the main deck and that hole A of the relay gear is aligned with the hole A of the limit gear and that hole B of the relay gear is aligned with the hole B of the drive gear. (See Fig.2-2-10.)

(9) Install the door opener, opener guide, spring(A) and cassette housing bracket and fasten the two slit washers.

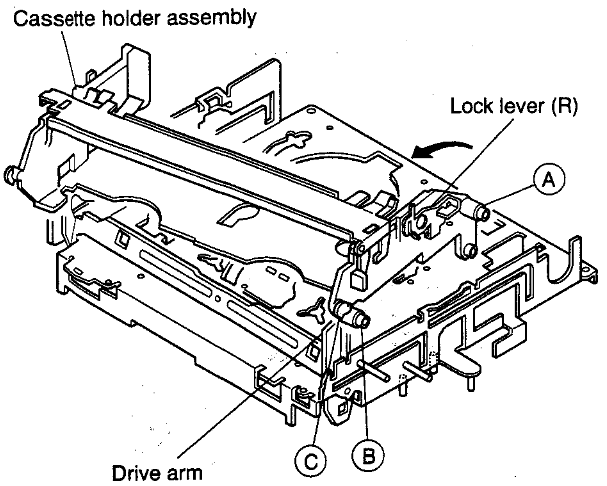

Cassette holder assembly
Lock lever (R)
Ⓐ
Drive arm
Ⓒ
Ⓑ

Fig. 2-2-8

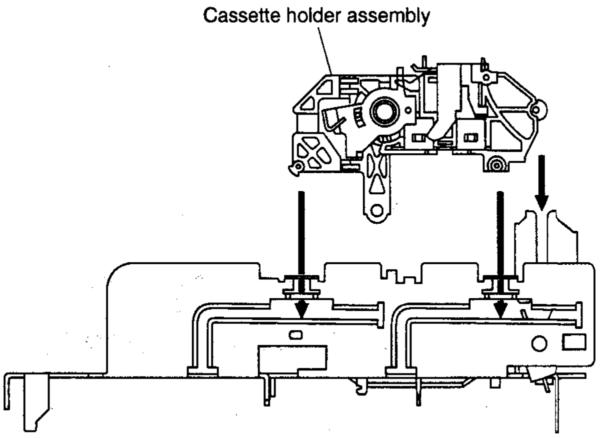

Cassette holder assembly

Fig. 2-2-9

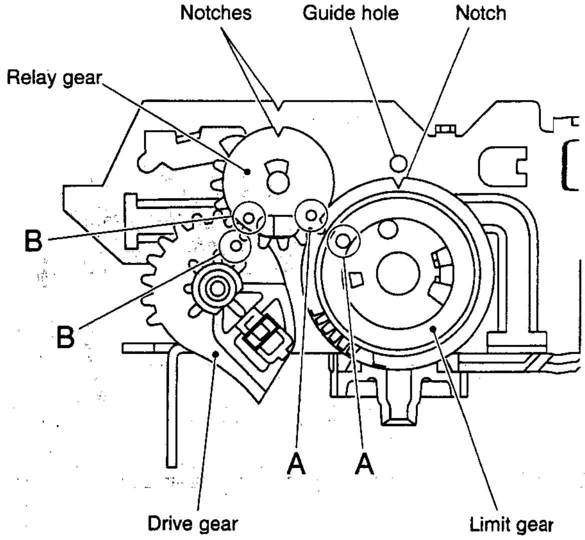

Notches
Guide hole
Notch
Relay gear
B
B
A
A
Drive gear
Limit gear

Fig. 2-2-10

2.2.4 Pinch Roller Arm Assembly

1. How to remove

(1) Remove the spring from the hook of the press lever assembly.

(2) Remove the slit washer and remove the pinch roller seat 2. (See Fig.2-2-11.)

(3) Remove the pinch roller arm assembly by pulling it up.

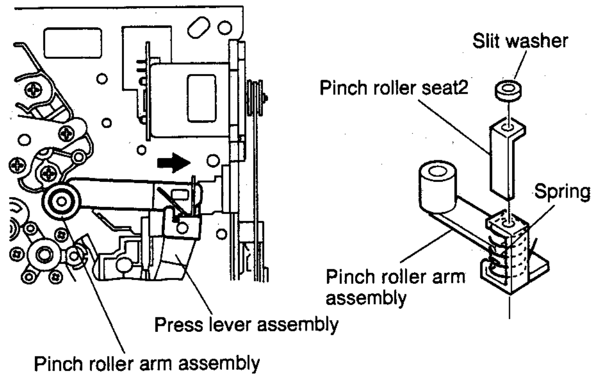

Slit washer
Pinch roller seat2
Spring
Pinch roller arm assembly
Press lever assembly
Pinch roller arm assembly

Fig. 2-2-11

2.2.5 Guide Arm Assembly and Press Lever Assembly

1. How to remove

(1) Remove the spring and expand the lug of the lid guide in the arrow-indicated direction. Then remove the guide arm assembly by pulling it up.

(2) Remove the press lever assembly by pulling it up. (See Fig.2-2-12.)

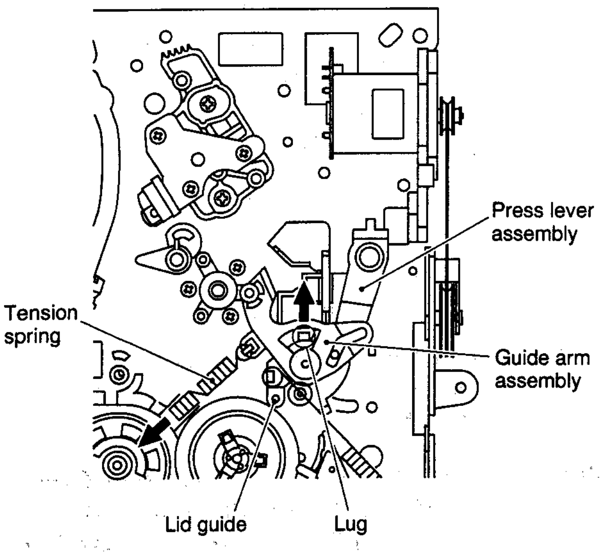

Press lever assembly
Tension spring
Guide arm assembly
Lid guide
Lug

Fig. 2-2-12

2.2.6 Audio Control Head

1. How to remove

(1) Remove the two screws (A) and remove the audio control head together with the head base.

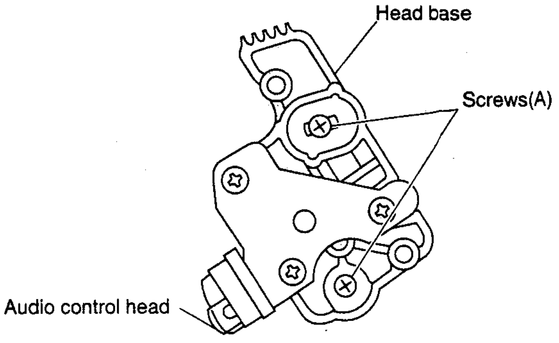

Head base
Screws(A)
Audio control head

Fig. 2-2-13

(2) When replacing only the audio control head, remove the three screws (B) while controlling the compression spring.

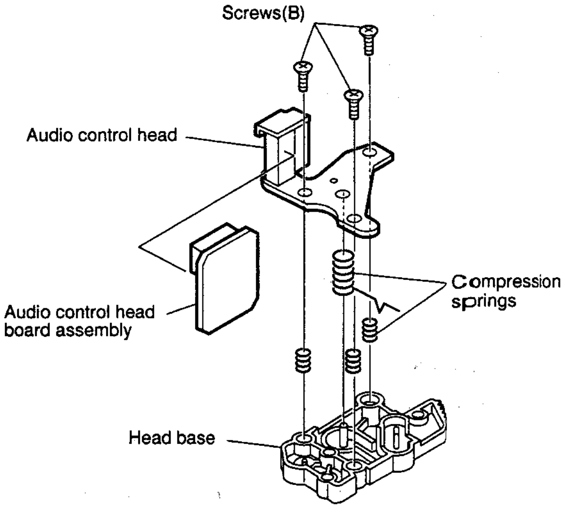

Screws(B)
Audio control head
Compression springs
Audio control head board assembly
Head base

Fig. 2-2-14

2. How to install

(1) To make the post-installation adjustment easier, set the temporary level as indicated in Fig.2-2-15. Also make sure that the screw center is brought into alignment with the center position of the slot.

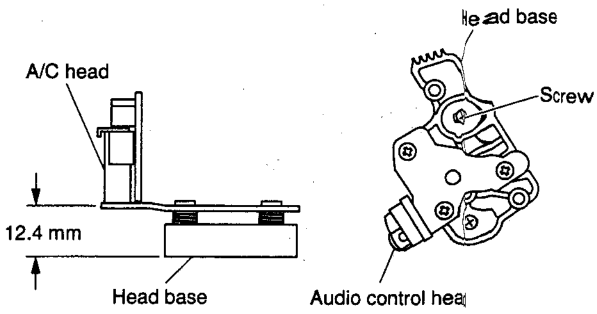

Head base
A/C head
Screw
12.4 mm
Head base
Audio control hea

Fig. 2-2-15

2.2.7 Loading Motor

1. How to remove

(1) Remove the belt wound around the worm gear.

(2) Open the two lugs of the motor guide and remove the loading motor, loading motor board assembly and motor guide altogether by pulling them up.

(3) When replacing the loading motor board assembly, take care with the orientation of the loading motor. (Install so that the loading motor label faces upward.)

(4) When the motor pulley has been replaced, choose the fitting dimension as indicated in Fig.2-2-16.

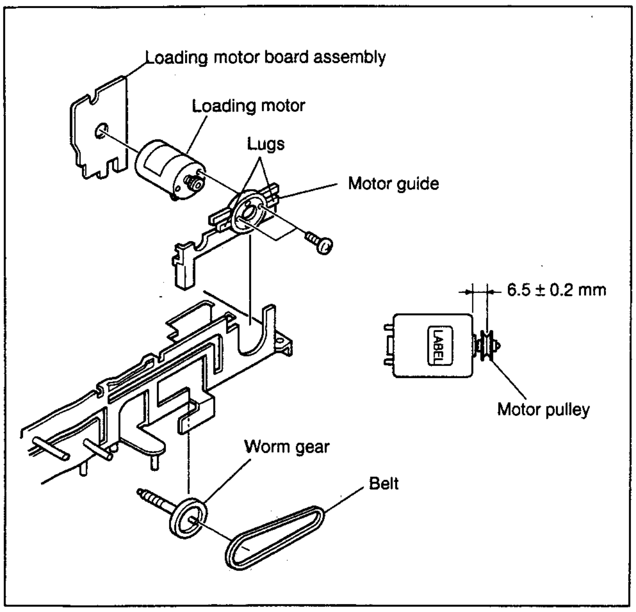


Fig. 2-2-16

2.2.8 Capstan Motor

1. How to remove

(1) Remove the belt (capstan) on the mechanism assembly back side.

(2) Remove the three screws (A) and remove the capstan motor.

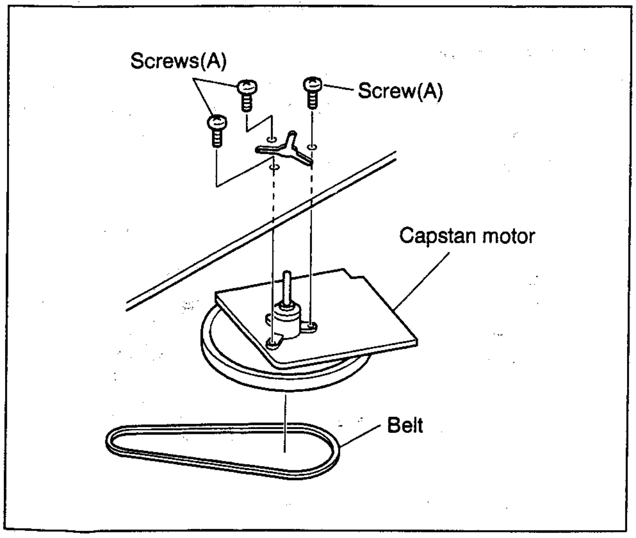


Fig. 2-2-17

2. How to install (Centering the mounting position)

When the capstan motor has once been removed and then reinstalled out of the initial correct position in the rotational direction, the capstan motor current may be unstable during operation in high or low temperatures. This may result in greater Wow & Flutter and occasionally in power breakdown because of current over - load. Install the capstan motor while following the procedure given below.

(The capstan motor is centrally located when the unit is shipped from the factory.)

(1) Provisionally tighten the three screws (A) securing the capstan motor.

(2) Install the mechanism assembly to which the capstan motor is provisionally fastened on the bottom chassis which incorporates the Main board assembly. (No need to tighten the screws for mounting the mechanism.) Make sure that all the connectors for the mechanism assembly and the Main board assembly are correctly installed as indicated in Fig. 2-2-18.

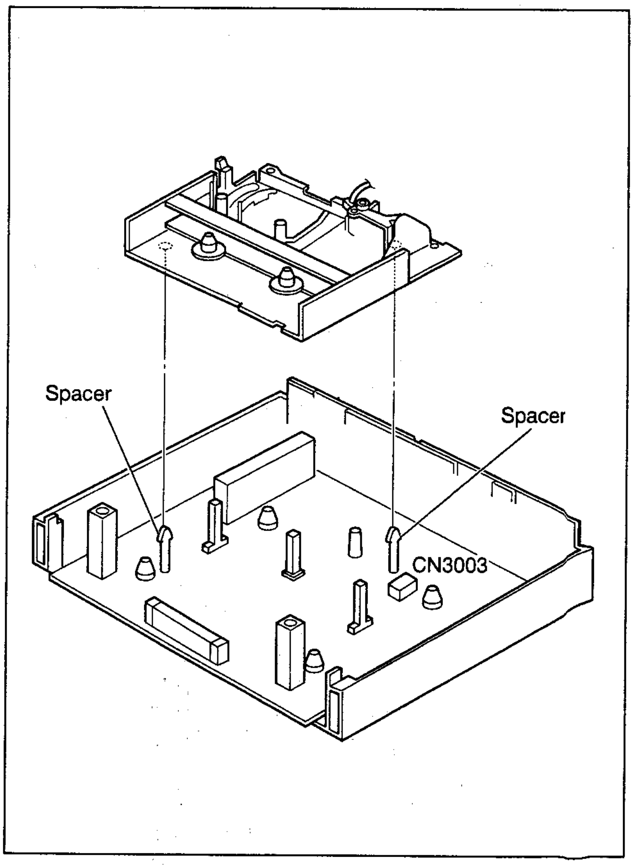


Fig. 2-2-18

(3) Making sure that the connector CN3003 of the capstan motor is correctly mounted, and securely tighten the three screws (A).

Note: *When the capstan motor has been replaced with a new one, perform recording in the LP mode for at least 2 minutes at normal temperatures immediately before starting the FF/REW or SEARCH operations (Aging).*

2.2.9 Pole Base Assembly (supply or take-up side)

1. How to remove

(1) Remove the UV catcher 2 on the removal side by loosening the screw (A).

(2) Remove the pole base assembly on the supply side from the mechanism assembly by loosening the screw (B) on the mechanism assembly back side and sliding the pole base assembly toward the UV catcher 2.

(3) As for the pole base assembly on the take-up side, turn the pulley of the loading motor to lower the cassette holder because the screw (B) is hidden under the control plate. (See the "Procedures for Lowering the Cassette holder assembly" of 1.3 DISASSEMBLY/ASSEMBLY METHOD.) Further turn the motor pulley to move the cassette holder until the screw (B) is no longer under the control plate (in the half-loading position). Then remove it as done for the supply side by removing the screw (B).

NOTE: *After reinstalling the Pole base assembly and the UV catcher2, be sure to perform compatibility adjustment.*

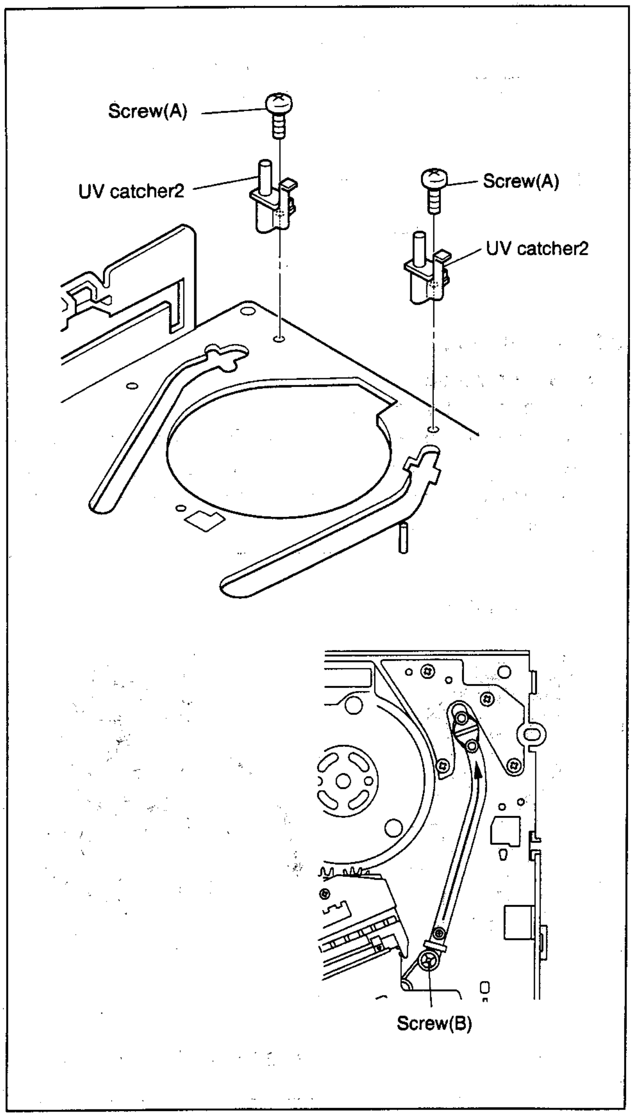

Screw(A)
UV catcher2
Screw(A)
UV catcher2
Screw(B)

Fig. 2-2-19

2.2.10 Rotary Encoder

1. How to remove

(1) Remove the screw (A) and remove the rotary encoder by pulling it up. (See Fig. 2-2-20.)

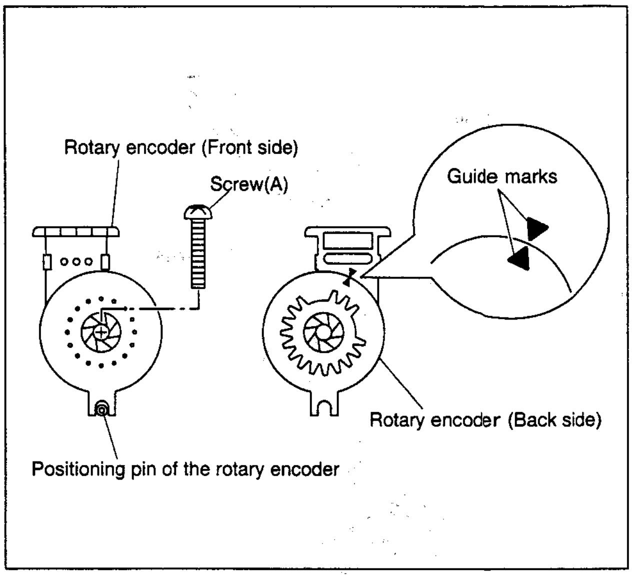

Rotary encoder (Front side)
Screw(A)
Guide marks
Rotary encoder (Back side)
Positioning pin of the rotary encoder

Fig. 2-2-20

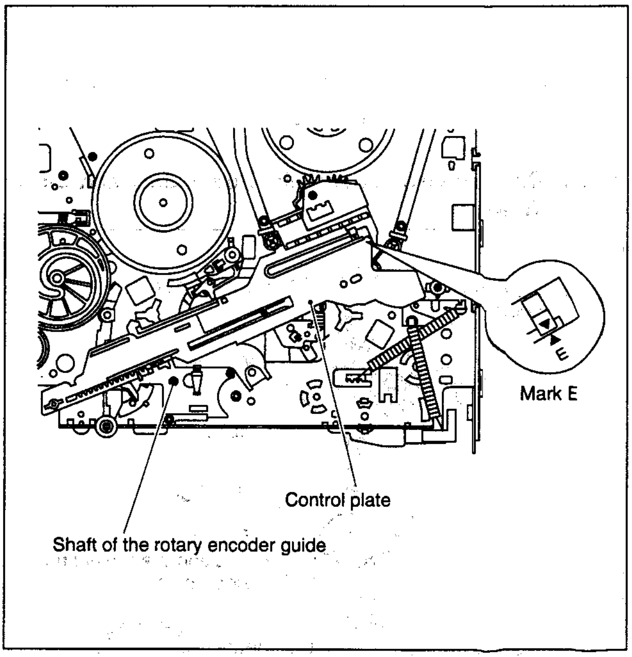

E
Mark E
Control plate
Shaft of the rotary encoder guide

Fig. 2-2-21

2. How to install (Phase matching)

(1) Make sure that the mark E of the control plate is in alignment with the mark ▼ of the loading arm gear shaft and bring the guide marks on the rotary encoder into alignment as indicated in Fig.2-2-20. (See Fig. 2-2-20 and Fig. 2-2-21.)

(2) Turn over the rotary encoder with its guide marks kept in alignment and install it by fitting on the shaft of the rotary encoder guide and the positioning pin.

(3) Tighten the screw (A) to complete the installation.

2.2.11 Clutch Unit

(1) Remove the belt wound around the capstan motor and the clutch unit.

(2) Remove the slit washer and remove the clutch unit.

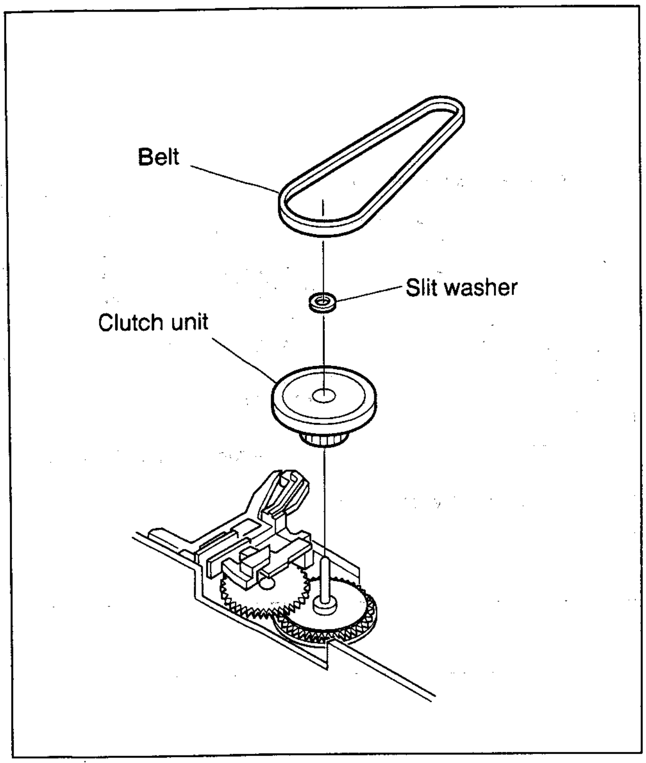

Belt
Slit washer
Clutch unit

Fig. 2-2-22

2.2.12 Change Lever Assembly, Direct Gear and Clutch Gear1

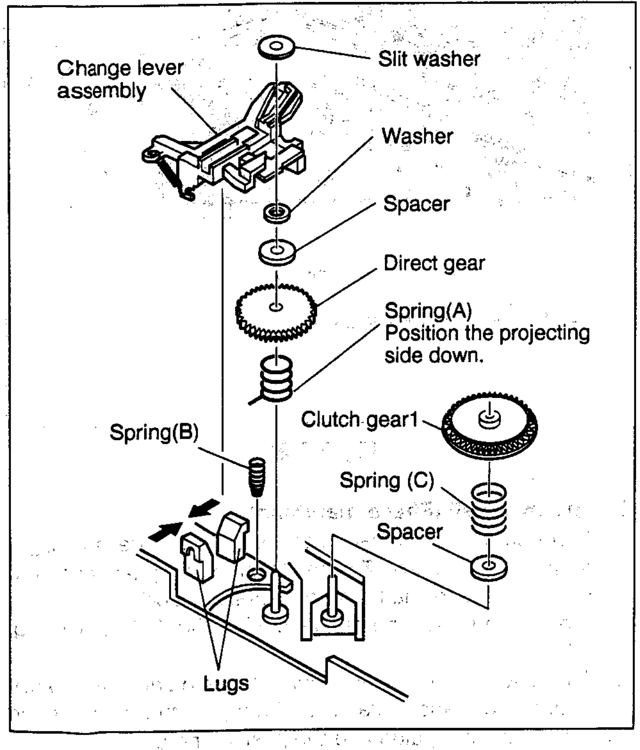

Change lever assembly
Slit washer
Washer
Spacer
Direct gear
Spring(A)
Position the projecting side down.
Spring(B)
Clutch gear1
Spring (C)
Spacer
Lugs

Fig. 2-2-23

1. How to remove

(1) Release the two lugs of the rotary encoder guide in the arrow-indicated direction and remove the change lever assembly.

(2) Remove the slit washer retaining the direct gear and remove the latter.
Take care so as not to lose the washer and spring. (See Fig.2-2-23.)

2. How to install

(1) Install the clutch gear1, spring (A), spring (C), direct gear, spacer and others to the individual shafts of the main deck, and finally the slit washer. (See Fig.2-2-23.)

(2) Let the spring (B) drops into the rotary encoder guide hole and install the change lever assembly.(Take care not to mistake a direction of the spring.) The point is to slightly lift the clutch gear1 and catch it from the both sides with the assembly. (See Fig.2-2-24.)

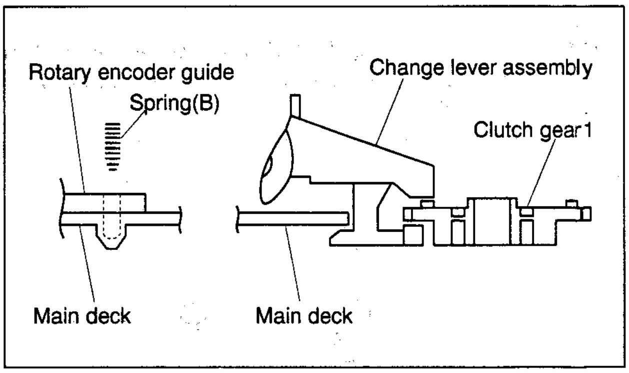

Rotary encoder guide
Spring(B)
Change lever assembly
Clutch gear1
Main deck
Main deck

Fig. 2-2-24

2.2.13 Link Lever

1. How to remove

(1) Remove the two slit washers.

(2) Remove the link lever by lifting it from the shaft retained by the slit washers. Then swing the link lever counterclockwise and remove it from the locking section of the control plate.

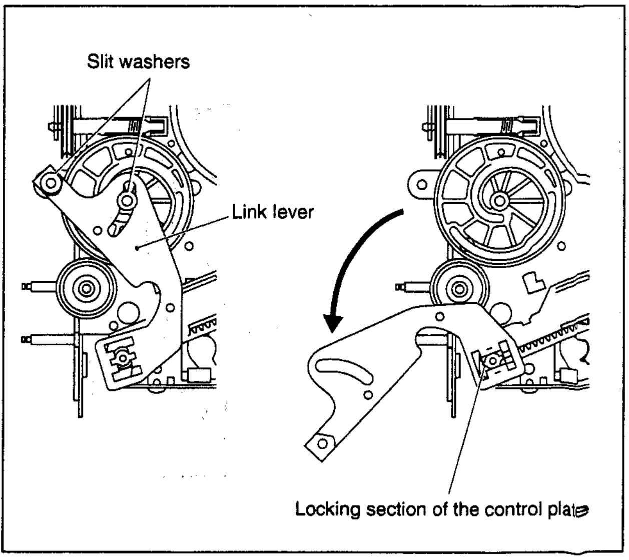

Slit washers
Link lever
Locking section of the control plate

Fig. 2-2-25

2. How to install (Phase matching)

(1) Slide the control plate so that its mark E is aligned with the mark ▼ on the loading arm gear shaft. (See Fig.2-2-26.)
(2) Rotate the worm gear until the guide hole of the control cam is aligned exactly with the guide hole of the main deck. (See Fig.2-2-27.)
(3) Insert the link lever into the locking section of the control plate. (See Fig.2-2-25.)
(4) Rotate the link lever clockwise so that it is installed on the shafts in the center and on the left of the control cam.
(5) Fasten the slit washers at these two points.

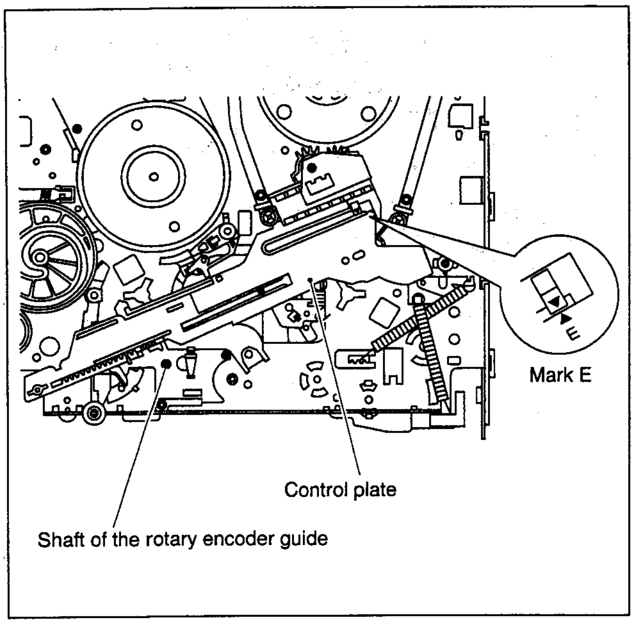

Mark E
E
Control plate
Shaft of the rotary encoder guide

Fig. 2-2-26

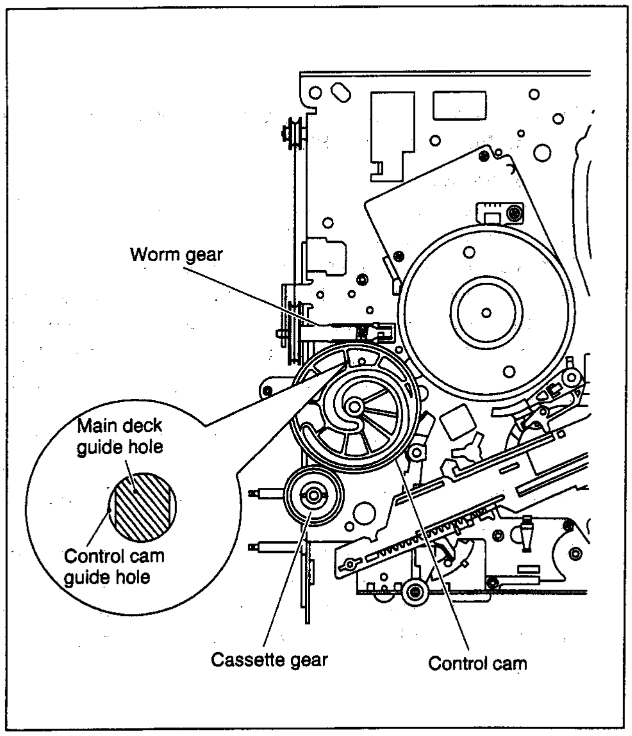

Worm gear
Main deck guide hole
Control cam guide hole
Cassette gear
Control cam

Fig. 2-2-27

2.2.14 Cassette Gear, Control Cam and Worm Gear

1. How to remove

(1) Remove the control cam by lifting it.
(2) Open the two lugs of the cassette gear outward and pull the latter off.
(3) Remove the belt wound around the worm gear and the loading motor.
(4) Open the lug of the lid guide outward and remove the worm gear.

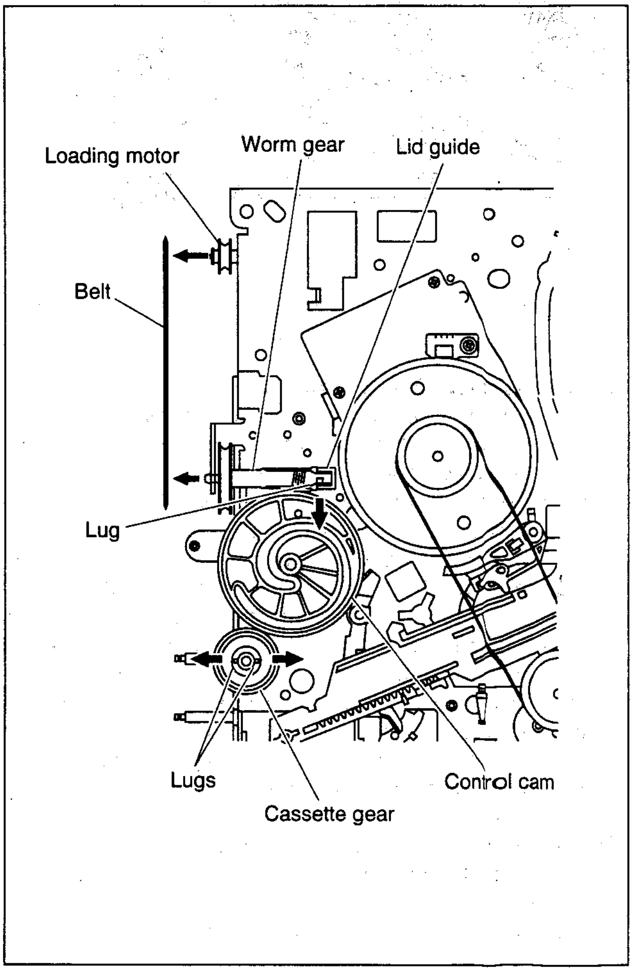

Loading motor
Worm gear
Lid guide
Belt
Lug
Lugs
Cassette gear
Control cam

Fig. 2-2-28

2.2.15 Control Plate

1. How to remove

(1) Remove the screw (A) retaining the control bracket 1 and remove the latter.
(2) Slide the control plate as indicated by the arrow and remove the control plate. (See Fig.2-2-29.)

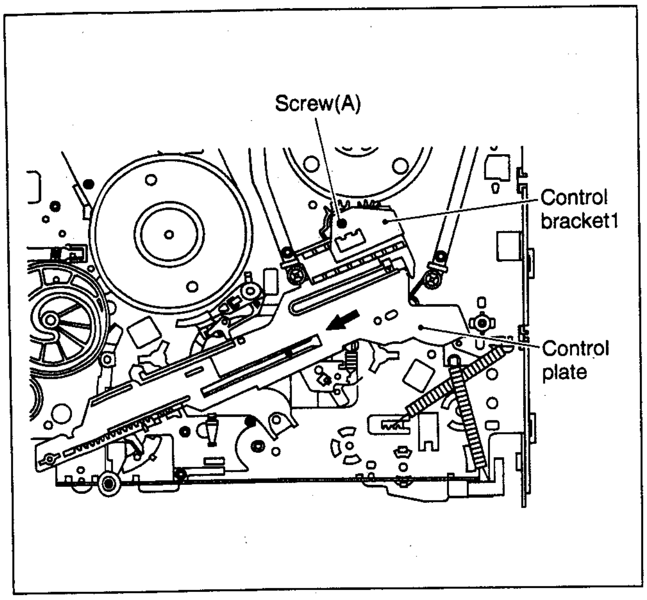

Screw(A)
Control bracket1
Control plate

Fig. 2-2-29

2. How to install (Phase matching)

(1) Adjust the position of the idler arm assembly pin as indicated in Fig.2-2-30 (to the left of centre of the R section).

(2) Bring the guide hole of the take-up lever into alignment with the hole at the control plate guide and fix the position by inserting a 1.5 mm hexagonal wrench.

(3) Install the control plate so that the section A of the loading arm gear shaft fits into the hole (A) of the control plate, the section B of the control plate guide into the hole (B), and the control plate comes under the section C of the rotary encoder guide and the section D of the loading arm gear shaft while press-fit the pole base assmebly (supply side) as indicated by the arrow. It is important that the tension arm assembly shaft is positioned closer toward you than the control plate. (See Fig.2-2-31.)

(4) Make sure that the mark E of the control plate is in alignment with the mark ▼ of the loading arm gear shaft. (See Fig.2-2-31.)

(5) Pull off the hexagonal wrench for positioning.

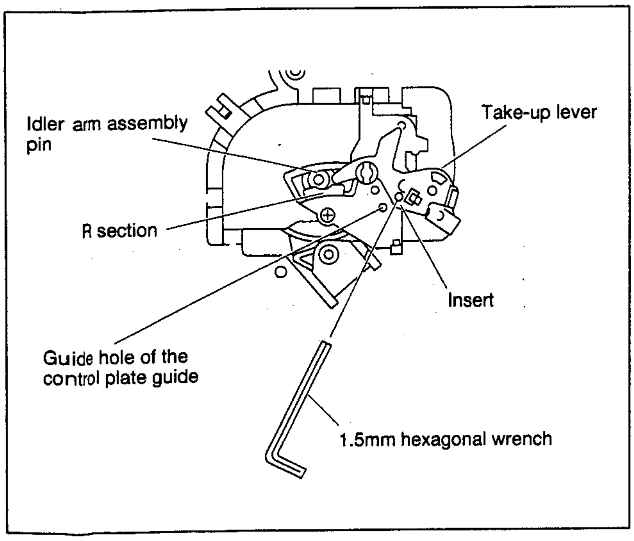

Idler arm assembly pin
Take-up lever
R section
Insert
Guide hole of the control plate guide
1.5mm hexagonal wrench

Fig. 2-2-30

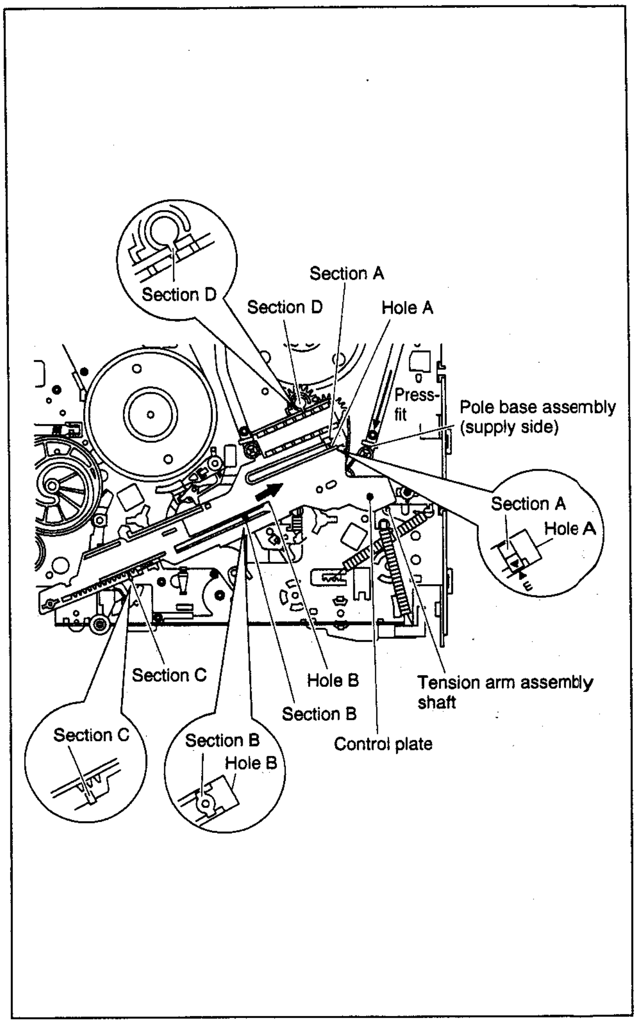

Section D
Section A
Section D
Hole A
Press-fit
Pole base assembly (supply side)
Section A
Hole A
E
Section C
Hole B
Section B
Tension arm assembly shaft
Section C
Section B
Hole B
Control plate

Fig. 2-2-31

2.2.16 Loading Arm Gear (supply or take-up side) and Loading Arm Gear Shaft

1. How to remove

(1) Remove the loading arm gear (supply side) by loosening the screw (A). (See Fig. 2-2-32.)

(2) Remove the screw (B) and remove the torsion arm from the pole base assembly (take-up side). (See Fig.2-2-32.)

(3) Turn the loading arm gear (take-up side) clockwise so that the notch of the loading arm gear (take-up side) is in alignment with the projection of the loading arm gear shaft and lift it.
Likewise, turn the loading arm counterclockwise so that the notch is in alignment with the projection and remove the loading arm gear (take-up side). (See Fig.2-2-32 and Fig. 2-2-33.)

(4) When removing the loading arm gear shaft, be sure of first removing the screw retaining the drum assembly (on the back side of the loading arm gear shaft). Then remove the screw (C) and remove the loading arm gear shaft by sliding it.

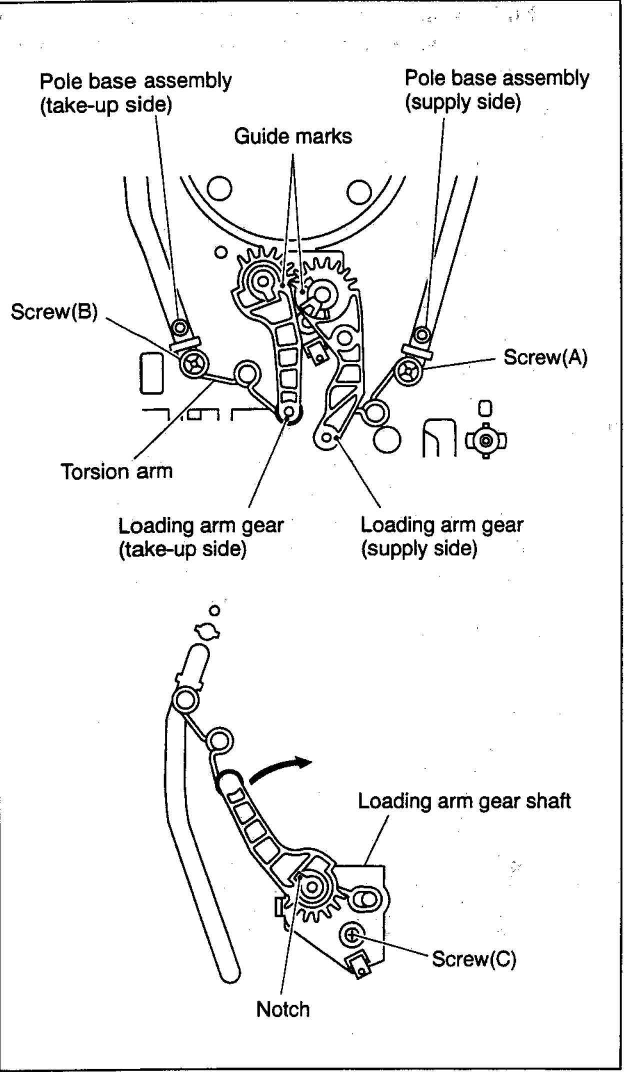

Pole base assembly (take-up side)
Pole base assembly (supply side)
Guide marks
Screw(B)
Screw(A)
Torsion arm
Loading arm gear (take-up side)
Loading arm gear (supply side)
Loading arm gear shaft
Screw(C)
Notch

Fig. 2-2-32

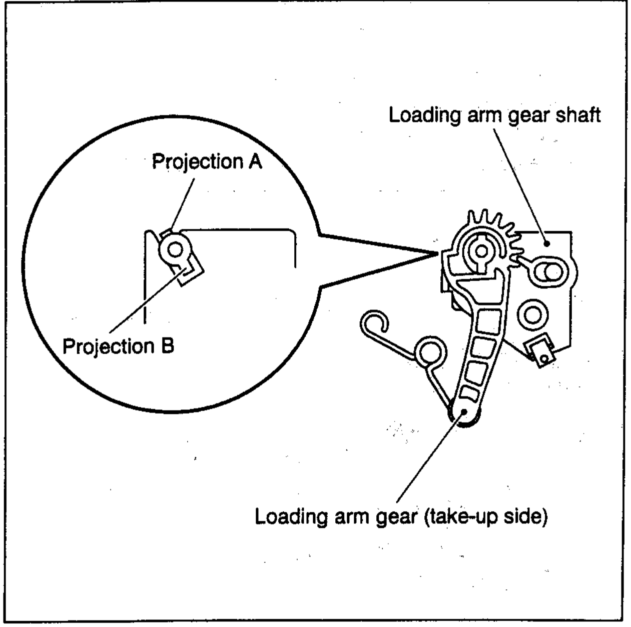

Loading arm gear shaft
Projection A
Projection B
Loading arm gear (take-up side)

Fig. 2-2-33

2. How to install

(1) Align the notch of the loading arm gear (take-up side) to the projection B of the loading arm gear shaft and slip it over. Then rotate it clockwise for alignment with the projection A and slip it down to the bottom. (See Fig.2-2-33.)

(2) Then turn the loading arm gear (take-up side) counterclockwise. Hang the torsion arm on the pole base assembly (take-up side) and tighten the screw (B).

(3) Install the loading arm gear (supply side) so that the guide mark of the loading arm gear (take-up side) is in alignment with the guide mark of the loading arm gear (supply side). Then hang the torsion arm on the pole base assembly (supply side) and tighten the screw (A). (See Fig.2-2-32.)

2.2.17 Take-up Lever, Take-up Head and Control Plate Guide

(1) Remove the spring of the take-up lever from the main deck.

(2) Remove the lug (A) of the take-up lever from the main deck and pull out the take-up lever and the take-up head together.

(3) Remove the screw (A).

(4) Align the idler arm assembly pin in the center of the R section of the control plate guide, remove the control plate guide lugs (B) and (C) from the main deck, and remove the control plate guide.

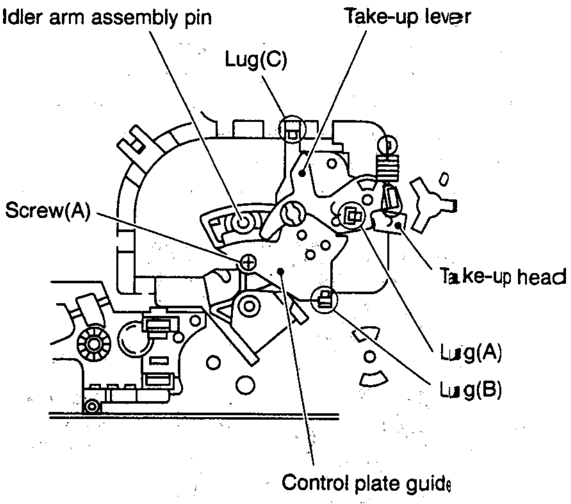

Idler arm assembly pin
Take-up lever
Lug(C)
Screw(A)
Take-up head
Lug(A)
Lug(B)
Control plate guide

Fig. 2-2-34

2.2.18 Capstan Brake Assembly

1. How to remove

(1) Move the lug (A) of the capstan brake assembly in the arrow-indicated direction so that it comes into alignment with the notch of the main deck. (See Fig. 2-2-35.)

(2) Remove the lug (B) of the capstan brake assembly from the main deck and remove the capstan brake assembly.

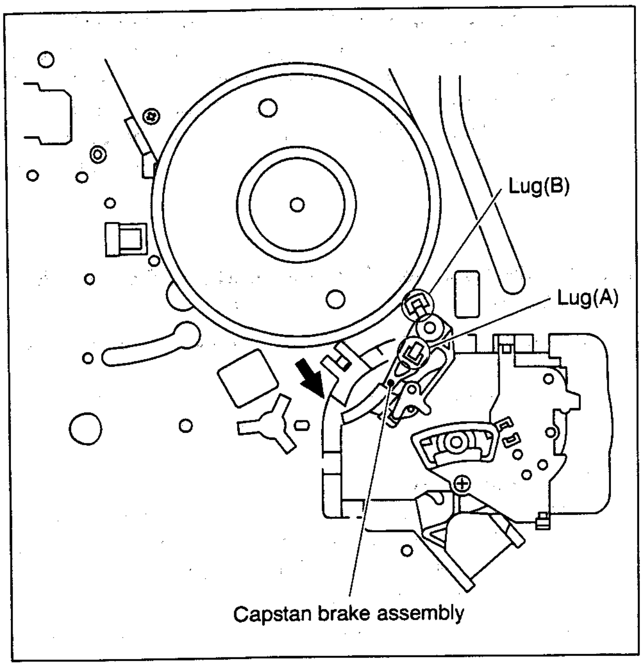

Lug(B)
Lug(A)
Capstan brake assembly

Fig. 2-2-35

2.2.19 Sub Brake Assembly (take-up side)

1. How to remove

(1) Remove the spring attached to the lid guide and sub brake assembly (take-up side).

(2) Bring the lug (A) of the sub brake assembly (take-up side) into alignment with the notch of the main deck.

(3) Remove the lugs (B) and (C) of the sub brake assembly (take-up side) from the main deck and remove the sub brake assembly (take-up side).

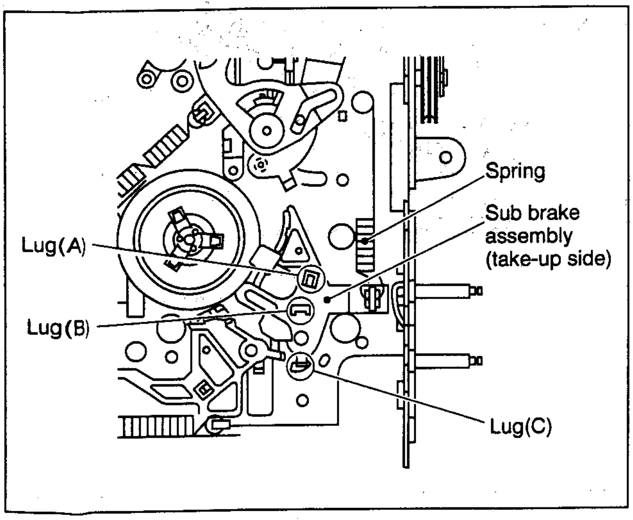

Spring
Sub brake assembly (take-up side)
Lug(A)
Lug(B)
Lug(C)

Fig. 2-2-36

2.2.20 Main Brake Assembly (take-up side), Reel Disk (take-up side) and Main Brake Assembly (supply side)

1. How to remove

(1) Move the main brake assembly (take-up side) in the arrow-indicated direction and remove the reel disk (take-up side).

(2) Remove the spring attached to the main brake assembly.

(3) Remove the lug (A) of the main brake assembly (take-up side) and pull out the lug (B) after bringing it into alignment with the main deck notch.

(4) Remove the lugs (C), (D) and (E) of the main brake assembly (supply side) from the main deck and pull them off. (See Fig.2-2-37.)

Note: *If the main brake assembly is difficult to remove, press it and hold the adjustment pin from the back side of the main deck when attempting to remove it.*
After the adjustment pin has been removed or the main brake assembly or the reel disk on the supply or take-up side have been replaced, it is required to adjust the main brake assembly torque. See page 2-23 for the detailed adjustment procedures.

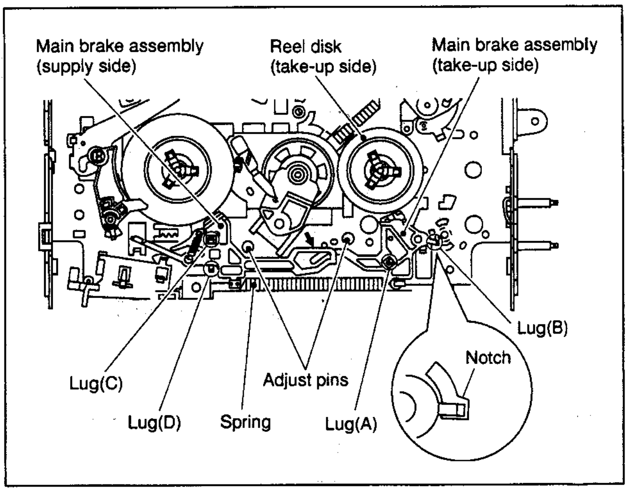

Main brake assembly (supply side)
Reel disk (take-up side)
Main brake assembly (take-up side)
Lug(B)
Notch
Lug(C)
Adjust pins
Lug(D)
Spring
Lug(A)

Fig. 2-2-37

(5) When installing the main brake assembly (take-up side), slide the brake lever in the direction as indicated by the arrow to prevent it from hitting the projection of the main brake assembly (take-up side). (See Fig.2-2-38.)

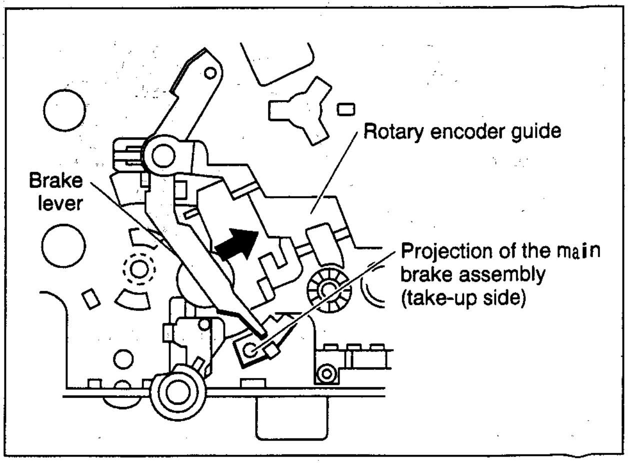

Rotary encoder guide
Brake lever
Projection of the main brake assembly (take-up side)

Fig. 2-2-38

2.2.21 Tension Brake Assembly, Reel Disk (supply side) and Tension Arm Assembly

1. How to remove

(1) Remove the three lugs of the tension brake assembly from the main deck and pull them off.

(2) Remove the reel disk (supply side) by loosening in the arrow-indicated direction the main brake assembly (supply side).

(3) Remove the tension spring on the back of the main deck. Then release the lug of the tension arm bearing in the arrow-indicated direction and draw out the tension arm assembly. (See Fig. 2-2-39.)

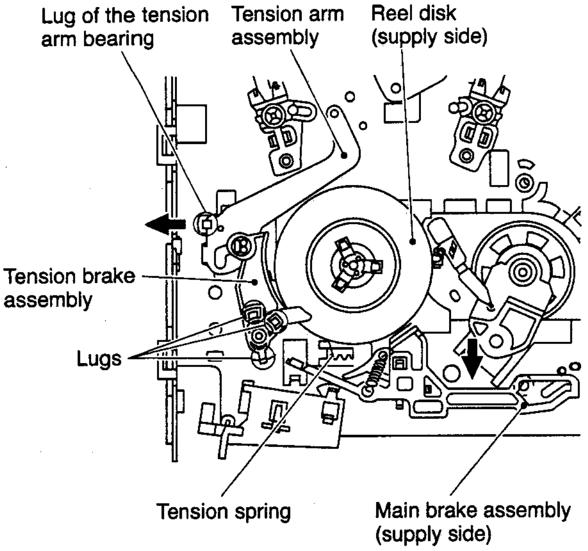

Lug of the tension arm bearing
Tension arm assembly
Reel disk (supply side)
Tension brake assembly
Lugs
Tension spring
Main brake assembly (supply side)

Fig. 2-2-39

2.2.22 Idler Lever, Idler Arm Assembly

1. How to remove

(1) Remove the lug of the idler lever from the main deck and remove the hook fitted in the idler arm assembly hole by lifting it.

(2) Remove the slit washer and pull out the idler arm assembly.

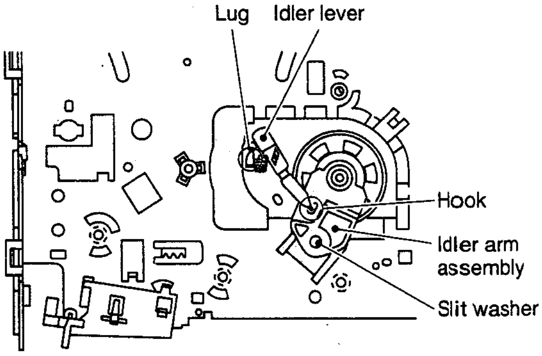

Lug
Idler lever
Hook
Idler arm assembly
Slit washer

Fig. 2-2-40

2.2.23 Stator Assembly

(1) Remove the flat cable.

(2) Remove the two screws (A).

(3) Remove the stator assembly by lifting in the arrow-indicated direction. (Take care that the brush spring does not jump out.)

(4) After installation, be sure to perform the PB switching point adjustment according to the electrical adjustment procedure.

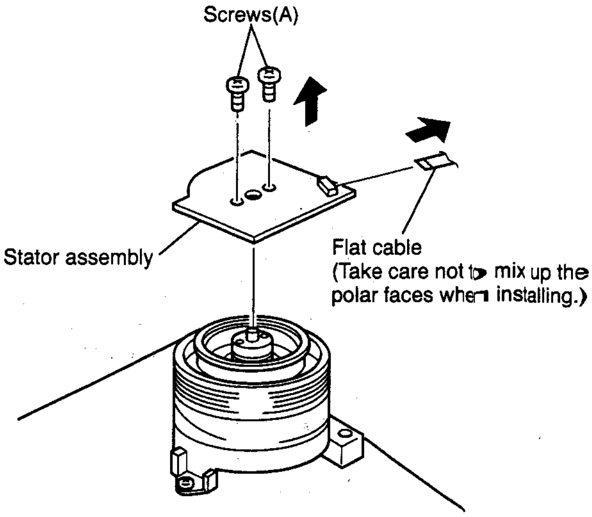

Screws(A)
Stator assembly
Flat cable
(Take care not to mix up the polar faces when installing.)

Fig. 2-2-41

2.2.24 Rotor Assembly

(1) Remove the stator assembly.
(2) Remove the two screws (B) and remove the rotor assembly.

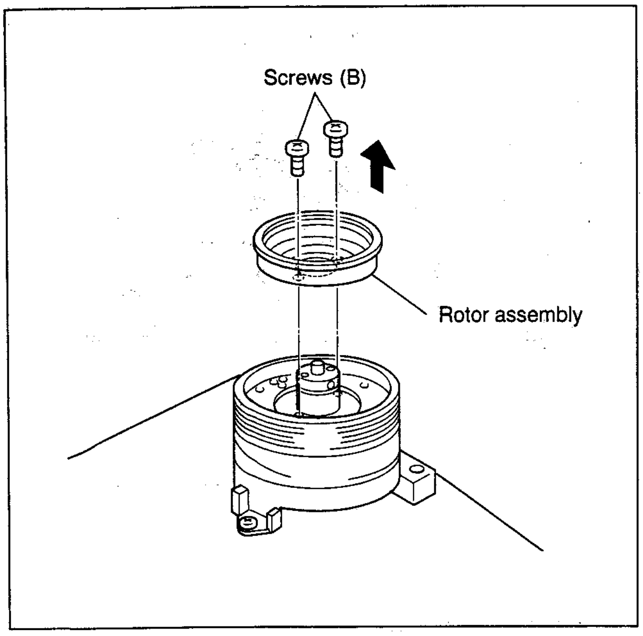

Screws (B)
Rotor assembly

Fig. 2-2-42

Note: *When installing the rotor assembly, note that a normal picture cannot be obtained without ensuring the phase matching as mentioned below.*

(3) Match the phases of the upper drum assembly and the rotor assembly as indicated in Fig.2-2-43.
(4) Place the upper drum assembly hole (a) over the rotor assembly holes (b) (with three holes to be aligned) and tighten the two screws (B). (See Fig.2-2-43.)

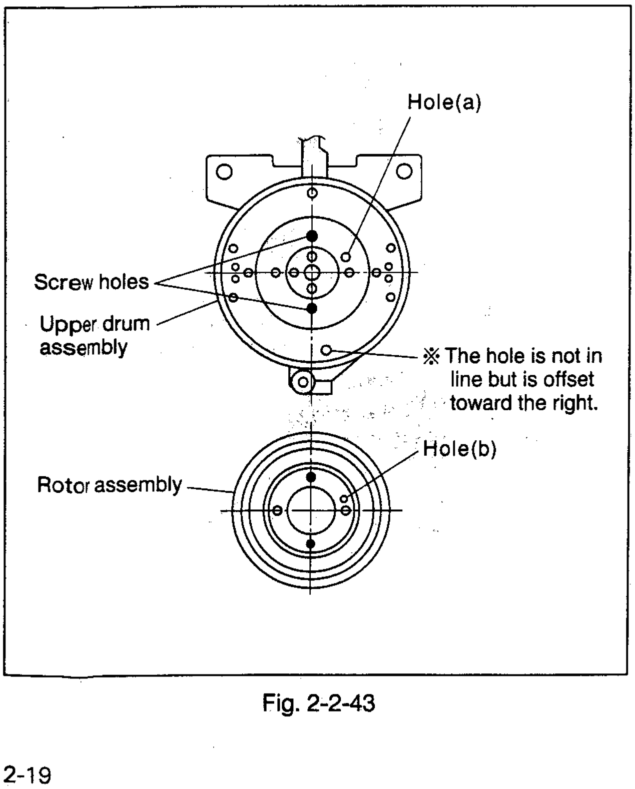

Hole(a)
Screw holes
Upper drum assembly
※The hole is not in line but is offset toward the right.
Hole(b)
Rotor assembly

Fig. 2-2-43

2.2.25 Upper Drum Assembly

1. How to remove

(1) Remove the stator assembly and rotor assembly.
(2) Loosen the screw of the collar assembly using a 1.5 mm hexagonal wrench and remove the collar assembly. Also remove the brush, spring and cap at one time.
(3) Remove the upper drum assembly and remove the washer using tweezers.

Note: *When replacement is required, control the up-down movement of the brush. Never apply grease.*

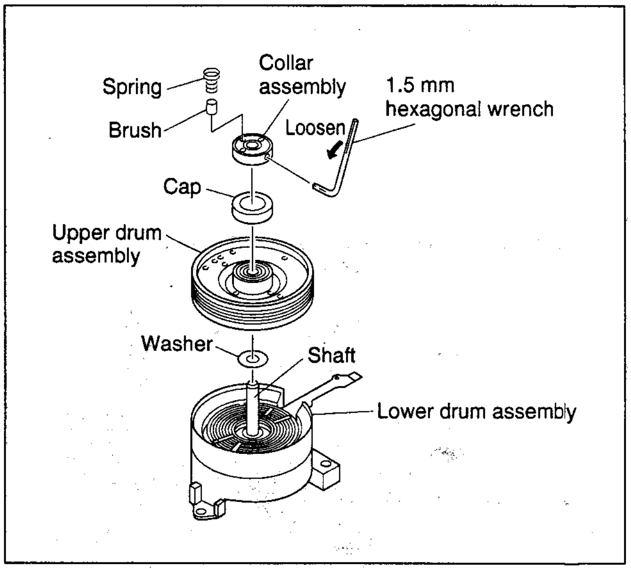

Spring
Collar assembly
1.5 mm hexagonal wrench
Brush
Loosen
Cap
Upper drum assembly
Washer
Shaft
Lower drum assembly

Fig. 2-2-44

2. How to install

(1) Clean the coil parts of the lower drum assembly and the newly installed upper drum assembly with an air brush in advance. (See Fig.2-2-45.)
(2) Install a new washer and upper drum assembly on the drum shaft. (See Fig.2-2-44.)

Note: *When replacing the upper drum assembly, replace it the together with the washer.*

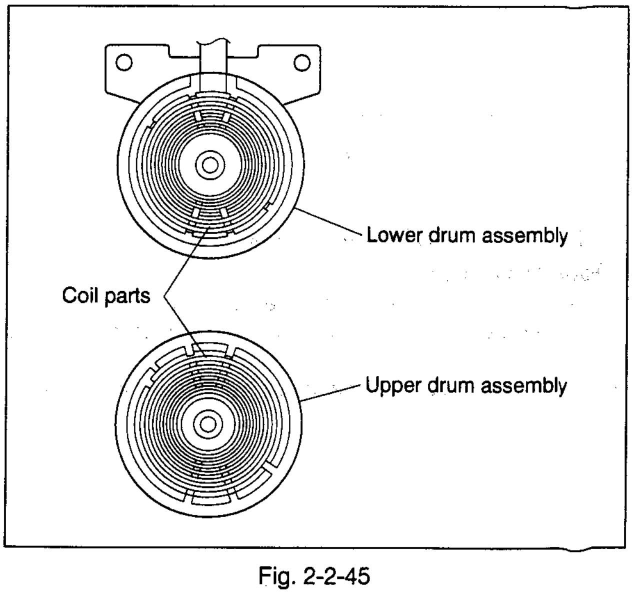

Lower drum assembly
Coil parts
Upper drum assembly

Fig. 2-2-45

(3) Install the cap to the upper drum assembly.
(4) Position the collar assembly as indicated in Fig.2-2-46 while controlling its up- down movement.

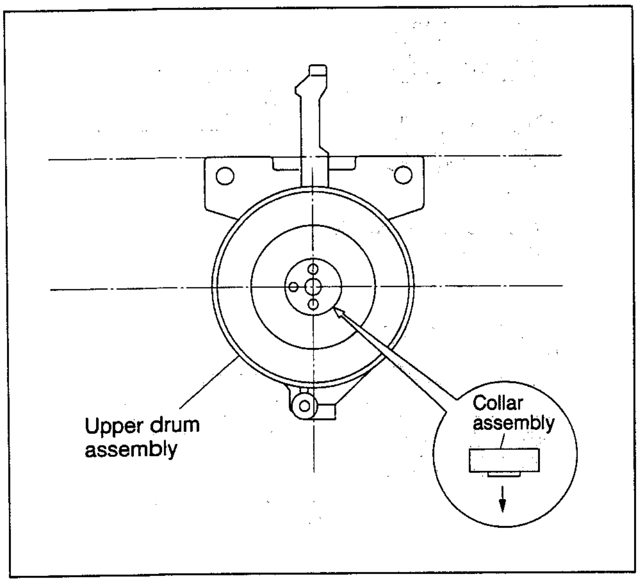


Fig. 2-2-46

(5) Secure the collar assembly in position with a hexagonal wrench while pressing its top with the fingers.

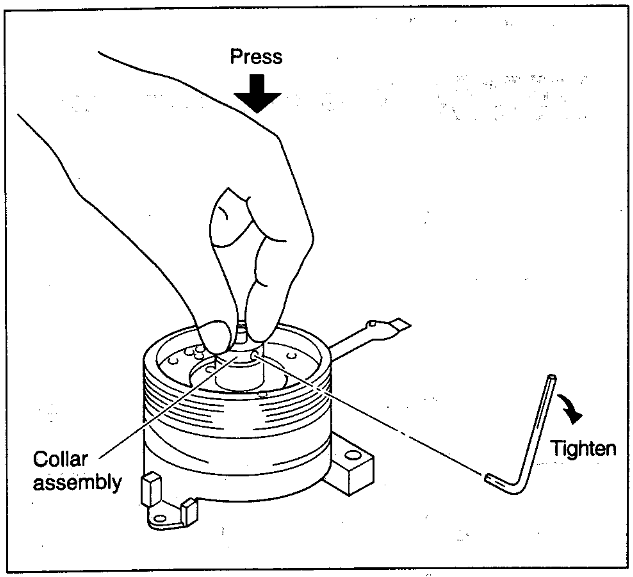


Fig. 2-2-47

(6) After installation, gently turn the upper drum assembly with your hand to make sure that it turns normally. Then install the brush and the spring.
(7) Install the rotor assembly and stator assembly according to Fig 2-2-41 and 2-2-42.
(8) When installation is complete, clean the upper drum assembly and lower drum assembly and carry out the following adjustments.
- PB switching point adjustment
- Slow tracking adjustment
- Compatibility adjustment (Be sure to check for compatibility for the LP mode.)

2.3 COMPATIBILITY ADJUSTMENT

Notes:
- *Although compatibility adjustment is very important, it is not necessary to perform this as part of the normal servicing work. It will be required when you have replaced the audio control head, drum assembly or any part of the tape transport system.*
- *To avoid any damage to the alignment tape while performing the compatibility adjustment, get a separate cassette tape (for recording and play back) ready to be used for checking the initial tape running behavior.*

2.3.1 Checking/Adjustment of FM Waveform Linearity

(1) Connect the oscilloscope to TP106(V. PB FM) of the main board assembly and to TP111(D.FF) of the main board assembly for external sync connection.
(2) Playing the alignment tape MHPE, observe the FM waveform.
(3) Press the channel buttons (▲, ▼) simultaneously during playback to enter the manual tracking mode. (This also brings tracking to the centre.)
(4) Make sure that there is no significant level drop of the FM waveform caused by the tracking operation, with its generally parallel and linear variation ensured. Perform the following adjustments when required. (See Fig.2-3-1.)
(5) Reduce the FM waveform while pressing the channel buttons (▲, ▼) during playback. If a drop in level is found on the left side, turn the guide roller of the pole base assembly (supply side) with the roller driver (PTU94002) to make the FM waveform linear.
If a drop in level is on the right side, likewise turn the guide roller of the pole base assembly (take-up side) with the guide roller to make it linear. (See Fig.2-3-3.)
(6) Then play MHPE-L and make sure that the FM waveform varies in parallel and linearly with the tracking operation. When required, perform fine-adjustment of the guide roller of the pole base assembly (supply or take-up side).
(7) Unload the cassette tape once, play the alignment tape MHPE-L again and confirm the FM waveform.

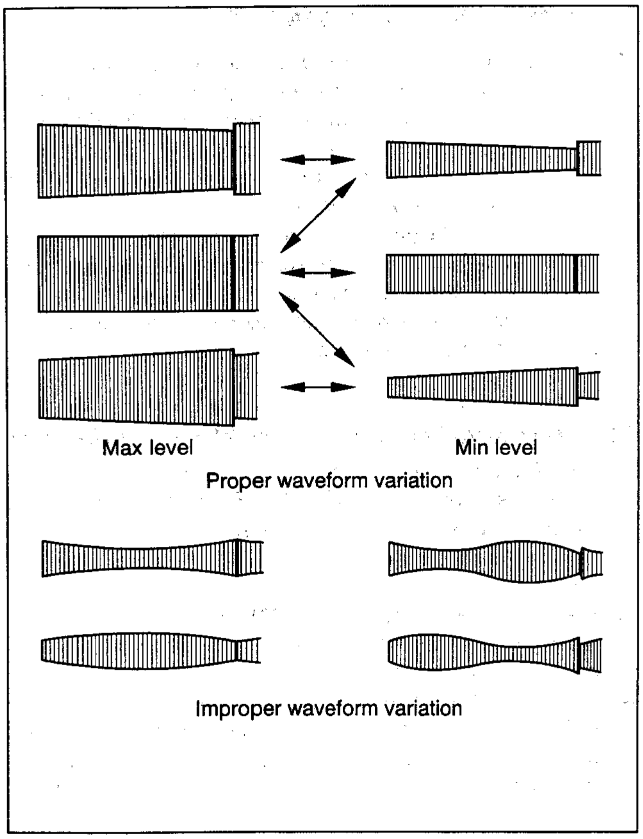

Max level
Min level
Proper waveform variation
Improper waveform variation

Fig. 2-3-1

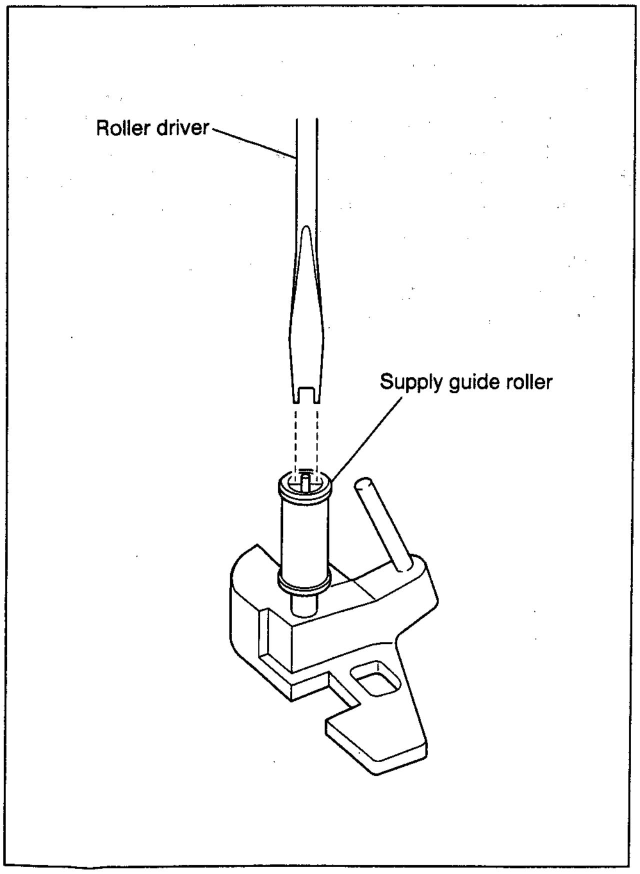

Roller driver
Supply guide roller

Fig. 2-3-2

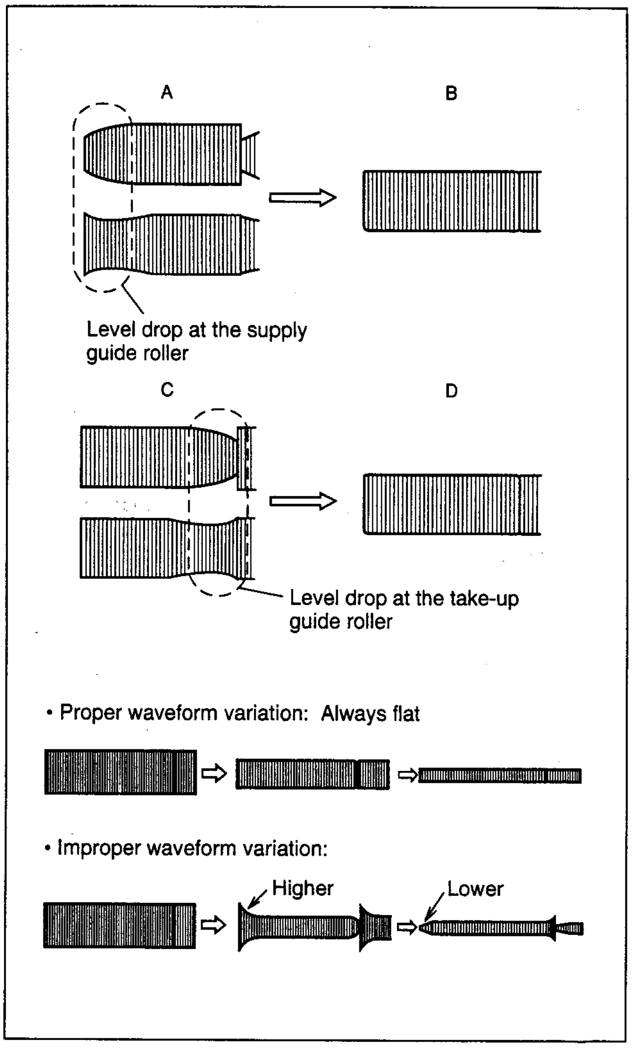

A
B
Level drop at the supply guide roller
C
D
Level drop at the take-up guide roller
• Proper waveform variation: Always flat
• Improper waveform variation:
Higher
Lower

Fig. 2-3-3

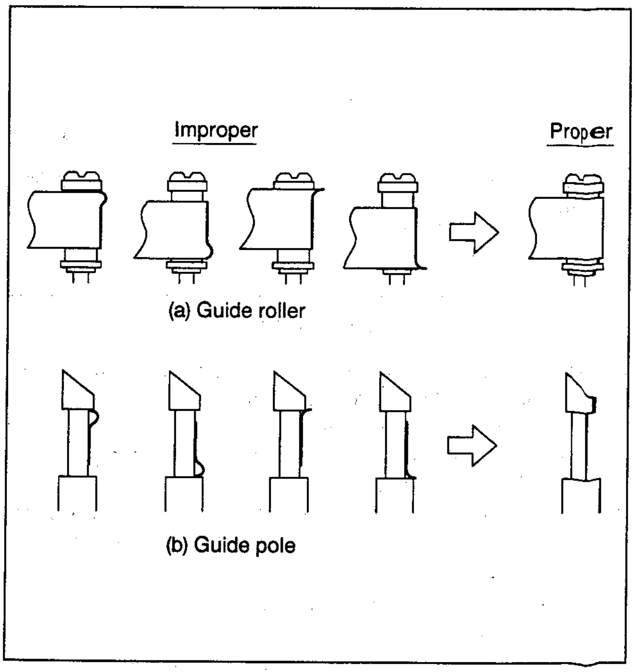

Improper
Proper
(a) Guide roller
(b) Guide pole

Fig. 2-3-4

2.3.2 Checking/Adjustment of the Height and Tilt of the Audio Control Head

Note: *Set a temporary level of the height of the A/C head in advance to make the adjustment easier after the A/C head has been replaced. (See Fig.2-2-15.)*

(1) Connect CH-1 of the oscilloscope to AUDIO OUT and CH-2 to TP4001 (CTL.P) of the main board assembly and observe the waveforms on both channels in the ALT mode.

(2) Play the alignment tape MHPE and adjust it by turning the screws (1), (2) and (3) little by little until the waveform of both the audio output signal and the control pulse reach maximum. The screw (1) and screw (3) are for adjustment of tilt and screw (2) for azimuth.

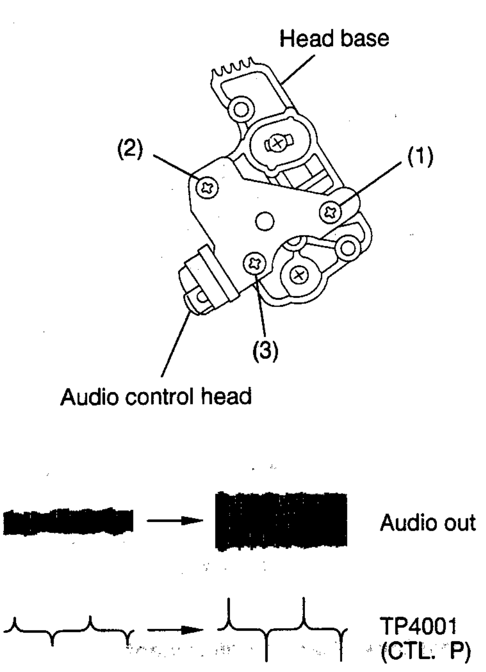


Fig. 2-3-5

2.3.3 Checking/Adjustment of the Audio Control Head Phase (X-Value)

(1) Connect the oscilloscope to TP106(V. PB FM) of the main board assembly and to TP111(D.FF) of the main board assembly for external sync connection.

(2) Play the alignment tape MHPE and observe the FM waveforms.

(3) Press the channel buttons (▲, ▼) simultaneously during playback to enter the manual tracking mode. (This also brings tracking to the centre.)

(4) Loosen screws (4) and (5) so that the A/C head position bit (PTU94010) is set as indicated in Fig.2-3-6.

(5) Turn the A/C head position bit fully toward the capstan. Then turn it back gradually toward the drum and stop on the second peak point position of the FM waveform output level. Then tighten the screw (4) temporarily.

(6) Then play the alignment tape MHPE-L.

(7) Press the channel buttons (▲, ▼) simultaneously during playback to enter the manual tracking mode. (This also brings the tracking to the centre.)

(8) Perform the tracking operation and make sure that the FM waveform is at its maximum.

(9) If it is not at maximum, loosen the temporarily tightened the screw (4) and turn the A/C head position bit to bring the audio control head to a position, around where the waveform reaches its maximum for the first time. Then tighten the screws (4) and (5).

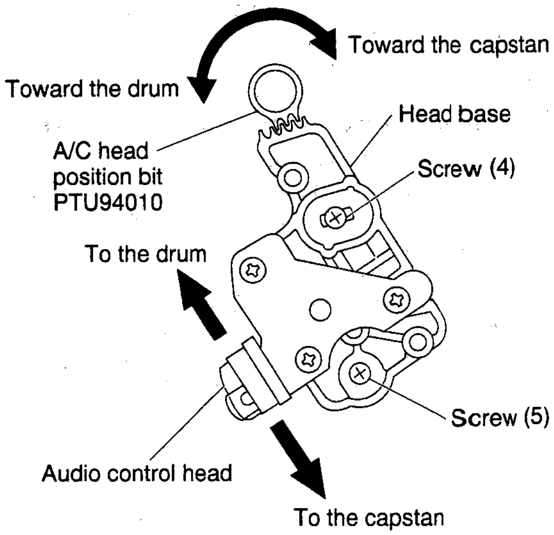


Fig. 2-3-6

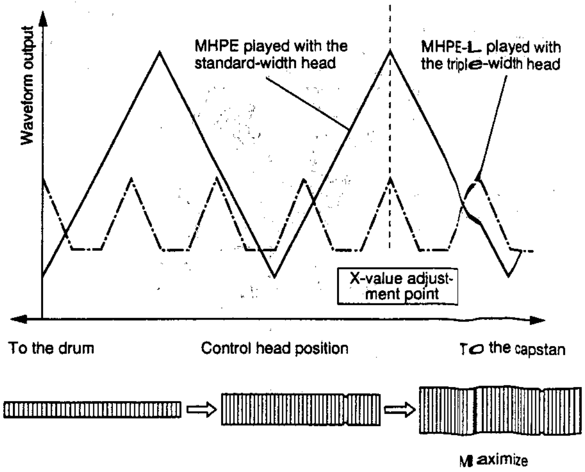


Fig. 2-3-7

2.3.4 Checking/Adjustment of the Standard Tracking Preset

Note: *Set the remote control code of the video recorder to A mode.*
(The unit set in B mode does not accept the remote control code of the presetting unit.)

(1) Connect the oscilloscope to TP106(V. PB FM) of the main board assembly and to TP111(D.FF) of the main board assembly for external sync connection.
(2) Playing the alignment tape MHPE-L and observing the FM waveform, make sure that the auto tracking operation is complete.
(3) Press the "D" button of the presetting unit twice.
(4) Make sure that the MHPE-L is not ejected.
(5) If ejected, again perform the phase (X-value) adjustment of the audio control head.

2.3.5 Checking/Adjustment of the Tension Pole

(1) Check the back tension cassette gauge (PUJ48076-2) to make sure that the indicator points to 25 - 51 gf•cm.
(2) If the indicated value is outside this range, carry out the following adjustment steps.
   1) Select the mechanism servicing mode. (See 1.5 MECHANISM SERVICE MODE.)
   2) While in the Play mode, turn the adjustment pin with a straight-slot screwdriver while taking care not to touch the 2.5 mm dia. pole. (See Fig.2-3-8.)

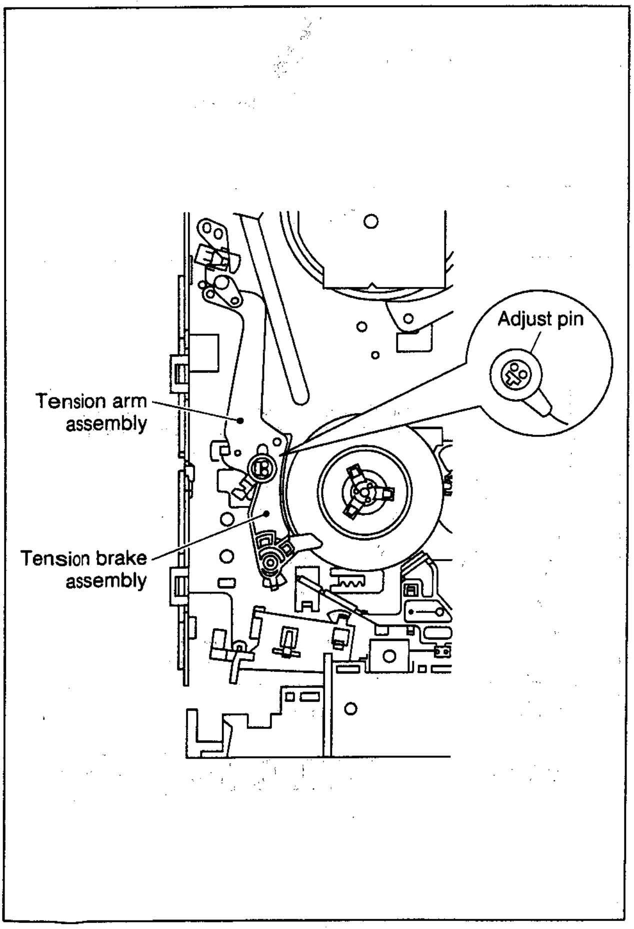


Fig. 2-3-8

2.3.6 Adjustment of the Tension Stud

(1) Adjust so that the left side of the tension stud is on the extension of the notch line of the main deck. (See Fig. 2-3-9.)

Note: *Adjustment is not usually necessary for the tension stud. Perform this adjustment only when it is out of position.*

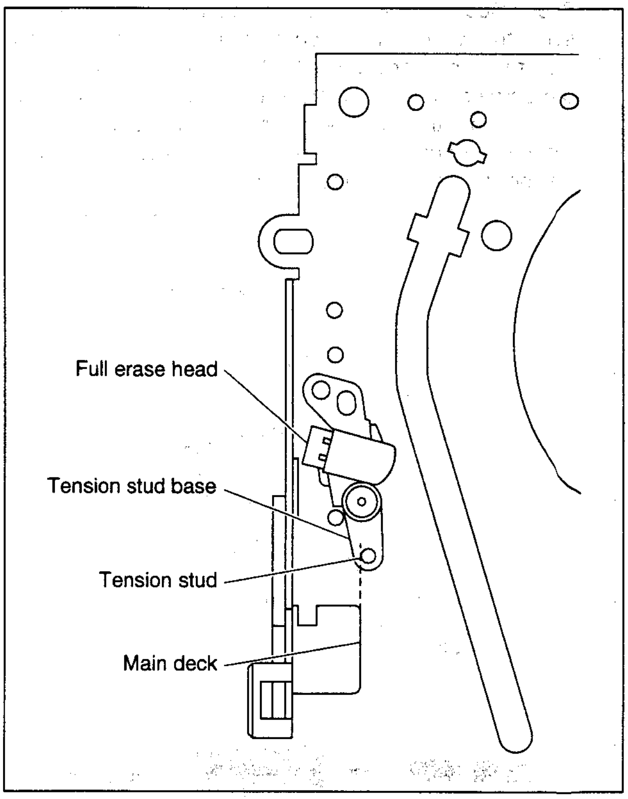


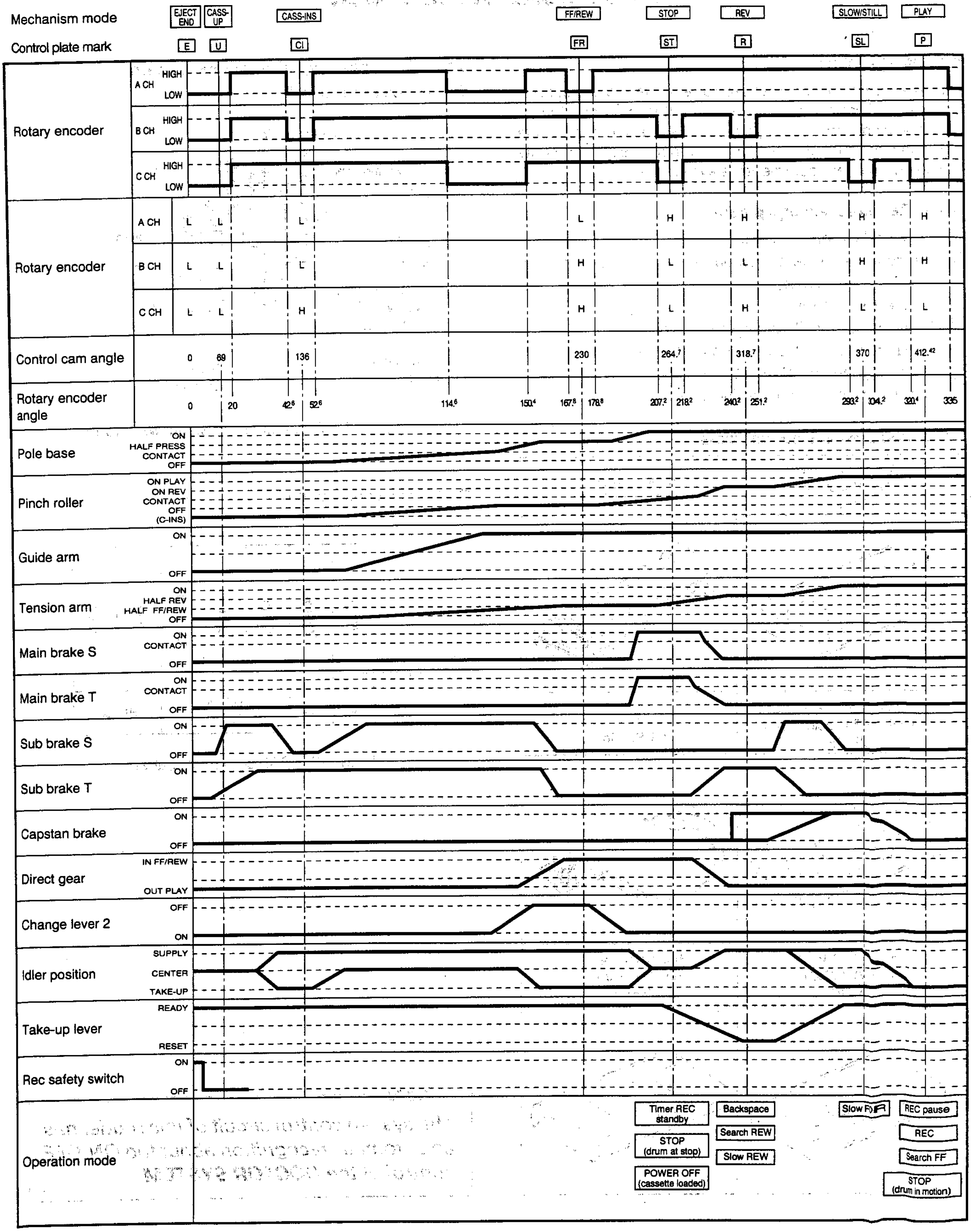
Fig. 2-3-9

2.3.7 Main Brake Torque Adjustment

Note: Adjustment of the main brake torque is required after the adjustment pin has been removed or the main brake assembly or the reel disk on the supply or take-up side have been replaced, removed or attached.

(1) Rotate the pulley of the loading motor by hand to align the mark ▼ on the loading arm gear shaft with the ST marking on the control plate (i.e. set to the STOP mode position).
(2) Insert a torque gauge (PUJ48075-2) into the reel disk on the side to be played, hold the torque gauge lightly, rotate it clockwise when measuring the supply side torque or counterclockwise when measuring the take-up side torque, and read the value indicated at the moment the reel disk starts to slip.
(3) Make sure that the main brake torque values on the supply and take-up sides are both between $23.^{5}$ — $78.^{4}$ x 10^{-3} N•m (240 — 800 gf•cm). If the value is outside the specified range, adjust to the specified value by rotating the adjustment pin.
If an adjustment by using the adjustment pin is not possible, replace the main brake assembly.

Mechanism Timing Chart


Mechanism mode
EJECT END
CASS-UP
CASS-INS
FF/REW
STOP
REV
SLOW/STILL
PLAY
Control plate mark
E
U
CI
FR
ST
R
SL
P
Rotary encoder
A CH
B CH
C CH
HIGH
LOW
L
H
Control cam angle
0
69
136
230
264.7
318.7
370
412.42
Rotary encoder angle
0
20
42.6
52.6
114.6
150.4
167.8
178.8
207.2
218.2
240.2
251.2
293.2
304.2
320.4
335
Pole base
ON
HALF PRESS
CONTACT
OFF
Pinch roller
ON PLAY
ON REV
CONTACT
OFF
(C-INS)
Guide arm
ON
OFF
Tension arm
ON
HALF REV
HALF FF/REW
OFF
Main brake S
ON
CONTACT
OFF
Main brake T
ON
CONTACT
OFF
Sub brake S
ON
OFF
Sub brake T
ON
OFF
Capstan brake
ON
OFF
Direct gear
IN FF/REW
OUT PLAY
Change lever 2
OFF
ON
Idler position
SUPPLY
CENTER
TAKE-UP
Take-up lever
READY
RESET
Rec safety switch
ON
OFF
Operation mode
Timer REC standby
STOP (drum at stop)
POWER OFF (cassette loaded)
Backspace
Search REW
Slow REW
Slow F/R
REC pause
REC
Search FF
STOP (drum in motion)

SECTION 3
ELECTRICAL ADJUSTMENT

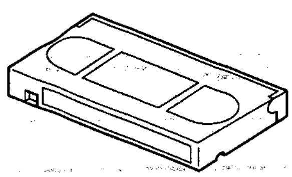
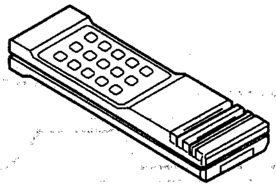
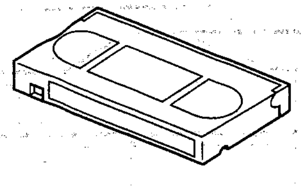
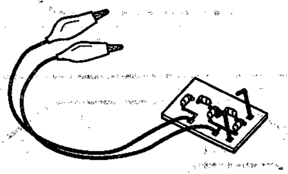
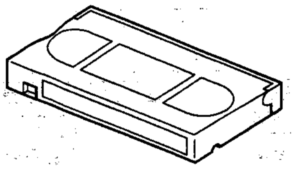
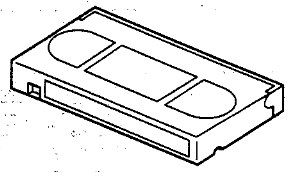
3.1 PRECAUTION

Electrical adjustment are required after replacing circuit components and certain mechanical parts. It is important to perform these adjustments only after all repairs and replacements have been completed. Also do not attempt these adjustments unless the proper equipments is available.

3.1.1 Required test equipment

① Colour television or monitor
② Oscilloscope: wide-band,dual-trace,triggered delayed sweep
③ Frequency counter
④ Signal generator: RF/IF sweep/marker
⑤ Signal generator: PAL colour bar, stairstep
⑥ Recording tape (VHS tape/S-VHS tape)
⑦ Digit-key remote controller(provided)

3.1.2 Required adjustment tools

Alignment tape (SP, stairstep) MHPE	Presetting unit PTU94008
	
Alignment tape (S-VHS, SP/LP, colour bar) MH-2H	LPF PTU93006
	
Alignment tape (SP, stairstep) MHP	Alignment tape (LP, stairstep) MHPE-L
	

3.1.3 Colour bar signal,colour bar pattern

- PAL colour bar signal

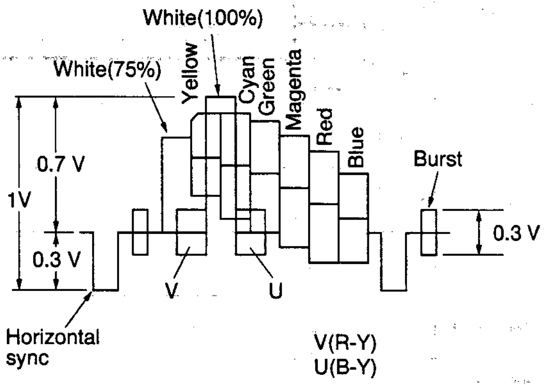

White(100%)
White(75%)
Yellow
Cyan
Green
Magenta
Red
Blue
Burst
0.7 V
1V
0.3 V
0.3 V
V
U
Horizontal sync
V(R-Y)
U(B-Y)

Fig.3-1-1 PAL colour bar signal waveform

- PAL colour bar pattern

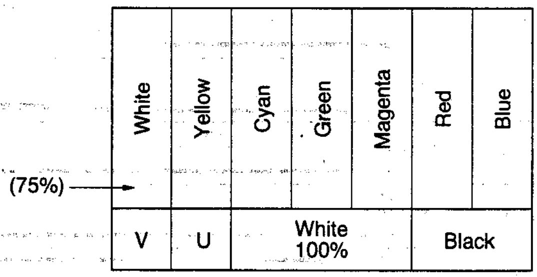

White
Yellow
Cyan
Green
Magenta
Red
Blue
(75%)
V
U
White 100%
Black

Fig.3-1-2 PAL colour bar pattern

Note:

*The system control circuit of this model has an automatic recognition about the ON-OFF control of the **DOCTOR SYSTEM**.*

3.2 SERVO CIRCUIT

Notes: • *Unless otherwise specified,all measurement points and adjustment parts are located on the MAIN BOARD.*
• *Set the VCR to the mode A by the remote controller.*

3.2.1 PB switching point

Signal	• Alignment tape [MHPE], Stairstep • Alignment tape [MHP], Stairstep
Mode	• PB • TBC : OFF
Equipment	• Oscilloscope
Measurement point	• VIDEO OUT TERMINAL
Trigger slope (-)	• TP111(D.FF)
Adjustment tool	• Presetting unit [PTU94008]
Specification	• 8.0 ± 0.5H [MHPE] • 7.5 ± 0.5H [MHP]

Note: • *Use only the "E" and "F" buttons, depressing other buttons during adjustment may cause adjustment errors.*

(1) Playback the stairstep signal of the alignment tape [MHPE].
(2) Connect an oscilloscope to VIDEO OUT TERMINAL and TP111 (negative slope), and then observe VIDEO OUT TERMINAL.
(3) Adjust by pressing the "E" or "F" buttons of the presetting unit so that the switching point becomes 8.0 ± 0.5H from V.sync.
(4) Depress the STOP button.
(5) Playback the stairstep signal of the alignment tape[MHP].
(6) Adjust by pressing the "E" or "F" buttons of the presetting unit so that the switching point becomes 7.5 ± 0.5H from V.sync.
(7) Depress the STOP button.

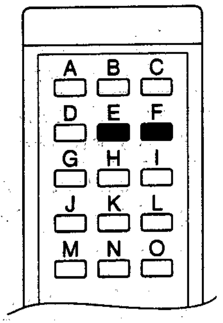


Fig. 3-2-1 Presetting unit

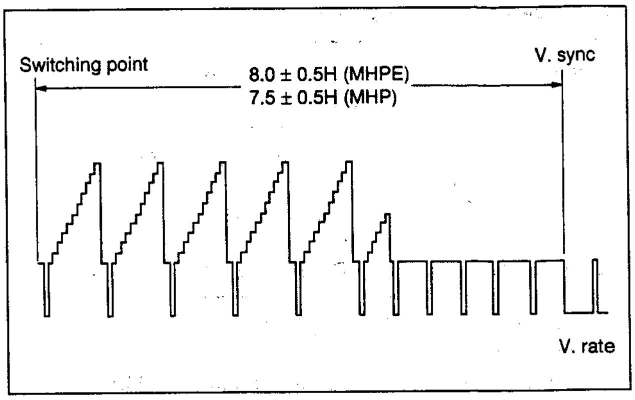


Fig. 3-2-2 PB switching point

3.2.2 Slow tracking preset

Signal	• Tuner or colour bar
Mode	• SP/LP : REC → PB(SLOW) • S-VHS • Automatic tracking OFF
Equipment	• TV-Monitor
Adjustment tool	• Presetting unit (PTU94008]
Specification	• Minimum noise

Note: • *Use only the "B" and "C" buttons, depressing other buttons during adjustment may cause adjustment errors.*

(1) Record a colour bar signal in the SP mode.
(2) Playback the recorded signal on the FWD slow mode.
(3) Set the tracking control to the centre position by simultaneously pressing the CH "+" and "−" buttons.
(4) Observe the display on the TV monitor and adjust for optimum noise condition (best tracking) by depressing the "B " or "C" buttons of the presetting unit.
(5) Depress the STOP button.
(6) Confirm that the bar noise is not visible on the TV monitor in the slow mode.
(7) Repeat steps (2) to (6) in the REV slow mode.
(8) Repeat steps (1) to (7) in the LP mode.

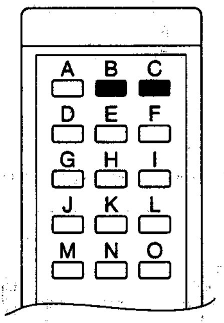


Fig. 3-2-3 Presetting unit

3.2.3 Dynamic drum preset

Signal	• Alignment tape [MHPE-L], Stairstep
Mode	• Automatic tracking OFF
Equipment	• Oscilloscope
Measurement point	• TP106 (V.PB FM)
Trigger slope (+)	• TP111 (D.FF)
Adjustment tool	• Presetting unit [PTU94008]
Specification	• FM waveform flat

Note: • *Use only the "D", "E" and "M" buttons, depressing other buttons during adjustment may cause adjustment errors.*

(1) Connect an oscilloscope to TP106 and external trigger from TP111 (positive slope).
(2) Playback the LP stairstep portion of the alignment tape.
(3) Set the automatic tracking control to the OFF by simultaneously pressing the CH "+" and "–" buttons.
(4) Adjust for maximum level of playback FM waveform by depressing the CH "+" or "–" buttons.
(5) Set the VCR to the LP 2x mode.
(6) Adjust for half level of playback FM waveform from maximum level by depressing the CH "+" or "–" buttons.
(7) Adjust by pressing the "M+D" or "M+E" buttons of the presetting unit for FM waveform is flat as shown in Fig. 3-2-5.
(8) Record the stairstep signal by the LP mode and play it back.
(9) Repeat steps (3) and (7) in the LP 1/6 FWD slow mode.

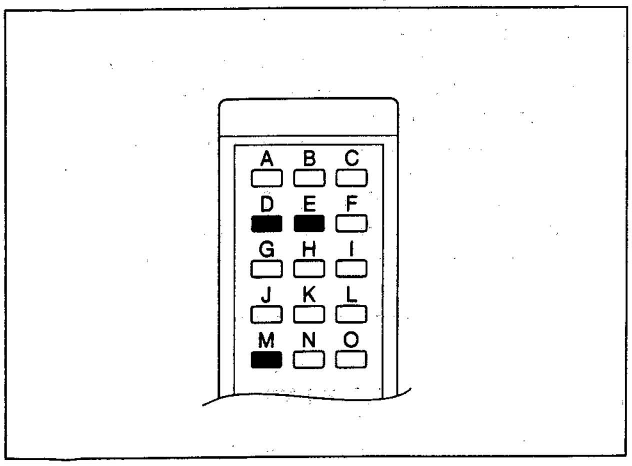


Fig. 3-2-4 Presetting unit

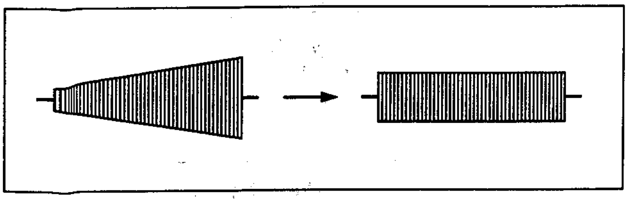


Fig. 3-2-5 PB FM

3.3 VIDEO CIRCUIT

Notes: • *Unless otherwise specified,all measurement points and adjustment parts are located on the MAIN BOARD.*
- *VIDEO circuit adjustments are performed by the EVR system by use of the presetting unit and digit-key remote controller.*
- *S-INPUT means Y/C separated video signal in the chart.*
- *Set the VCR to the mode A by the remote controller.*
- *Unless otherwise specified, set the VCR to the following mode.*

B.E.S.T	OFF
PICTURE CONTROL	NORMAL
TBC	ON

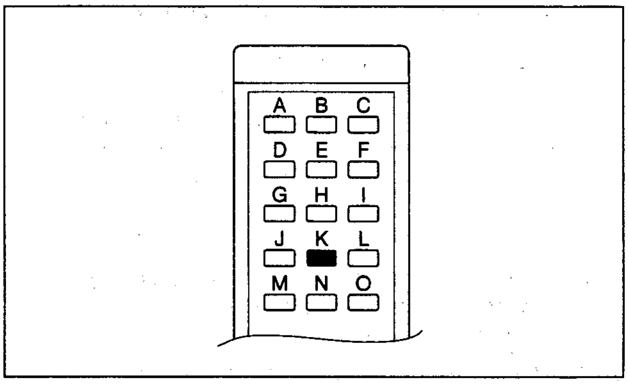


Fig. 3-3-1 Presetting unit

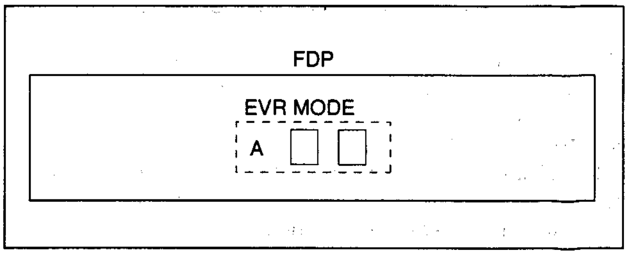


Fig. 3-3-2 EVR mode

3.3.1 EE Y level

Signal	• Colour bar
Mode	• EE
Equipment	• Oscilloscope
Measurement point	• Y OUT TERMINAL (75 ohm TERMINATION)
Adjustment tool	• Presetting unit [PTU94008] • Digit-key remote controller
EVR mode	• A : 11
Specification	• 1.00 ± 0.03 Vp-p (terminated)

(1) Connect an oscilloscope to Y OUT TERMINAL.
(2) Set the EVR mode by pressing the "K" button of the presetting unit.
(3) Set "A : 11" by twice pressing 1 button of the remote controller.

(4) Adjust the CH "+" or "−" buttons for 1.00 ± 0.03 Vp-p. (See Fig. 3-3-3.)
(5) Set the normal VCR mode by pressing the "K" button of the presetting unit again so adjustment data is memorized.

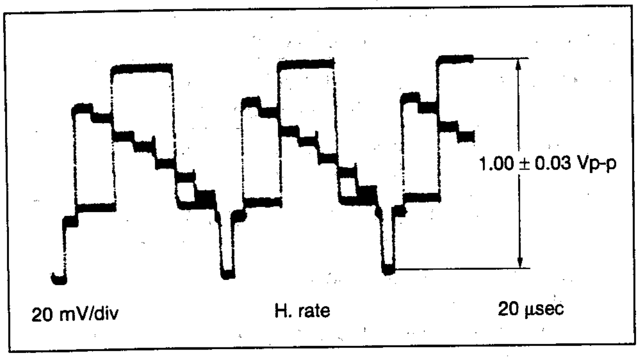


Fig. 3-3-3 EE Y level

3.3.2 SP/LP REC colour level

Signal	• Alignment tape [MH-2H] • Colour bar
Mode	• PB • REC → PB : SP/LP • S-VHS
Equipment	• Oscilloscope
Measurement point	• PB COLOUR
Trigger slope (−)	• TP111 (D.FF)
Adjustment tool	• Presetting unit [PTU94008] • Digit-key remote controller • LPF fixture [PTU93006]
EVR mode	• A : 2
Specification	• "B" x 150 ± 5% : SP • "B" x 110 ± 5% : LP

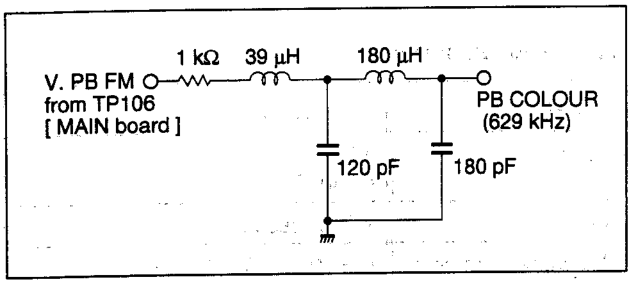


Fig. 3-3-4 LPF

(1) Connect an oscilloscope to PB COLOUR of a LPF (refer to Fig. 3-3-4) and TP111 (negative slope) on the MAIN board.
(2) Playback the SP colour bar signal of the MH-2H alignment tape.
(3) Adjust by pressing the CH "+" or "−" buttons of the Front panel for maximum level of the color waveform and make a note of the higher colour level "B".
(4) Press the STOP/EJECT button and eject the MH-2H alignment tape.
(5) Set the EVR mode by pressing the "K" button of the presetting unit.
(6) Set "A : 2" by pressing 2 button of the remote controller.
(7) Before recording, adjust the CH "+" or "−" buttons of the remote controller so that the higher level channel becomes 150 ± 5% : SP (110 ± 5% : LP) of the note "B" level during playback as shown in Fig. 3-3-5.
(8) Record a colour bar signal in the SP (LP) mode, and playback the recorded colour bar signal.
(9) Set the normal VCR mode by pressing the "K" button again so adjustment data is memorized.

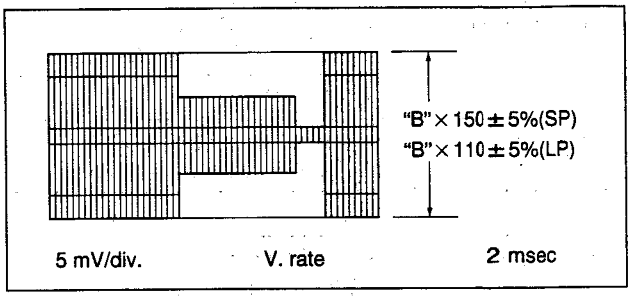


Fig. 3-3-5 REC colour level

3.3.3 PB Y level (S-VHS/VHS)

Signal	• Colour bar
Mode	• REC → PB : SP • S-VHS/VHS
Equipment	• Oscilloscope
Measurement point	• Y OUT TERMINAL (75 ohm TERMINATION)
Adjustment tool	• Presetting unit [PTU94008] • Digit-key remote controller
EVR mode	• A : 11
Specification	• 1.00 ± 0.03 Vp-p (terminated)

(1) Connect an oscilloscope to Y OUT TERMINAL.
(2) Set the EVR mode by pressing the "K" button of the presetting unit.
(3) Set "A : 11" by twice pressing 1 button of the remote controller.
(4) Record a colour bar signal in the S-VHS mode, and playback the recorded colour bar signal.
(5) Adjust the CH "+" or "−" buttons for 1.00 ± 0.03 Vp-p as shown in Fig. 3-3-6.
(6) Set the normal VCR mode by pressing the "K" button of the presetting unit again so adjustment data is memorized.
(7) Repeat steps (1) to (6) in the VHS mode.

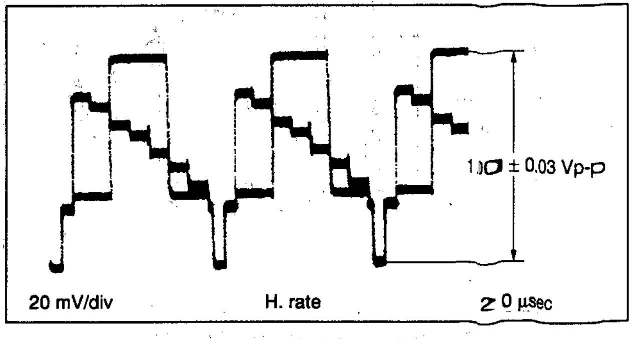


Fig. 3-3-6 PB Y level

3.3.4 S-VHS VIDEO EQ

Signal	• S INPUT • Video sweep
Mode	• REC → PB : SP/LP • S-VHS • Picture Control REC : Normal PB : Edit
Equipment	• Oscilloscope
Measurement point	• Y OUT TERMINAL (75 ohm TERMINATION)
Trigger slope (–)	• TP111 (D.FF)
Adjustment tool	• Presetting unit [PTU94008] • Digit-key remote controller
EVR mode	• A : 3
Specification	• 3.6 ± 0.4 scale : SP • 3.2 ± 0.4 scale : LP

(1) Connect an oscilloscope to Y OUT TERMINAL and TP111 (negative slope).
(2) Record a video sweep signal in the S-VHS SP mode, then play it back.
(3) Set the EVR mode by pressing the "K" button of the presetting unit.
(4) Set "A : 3" by pressing 3 button of the remote controller.
(5) When assuming the 100 KHz sweep signal marker on the bigger channel is four scales on the oscilloscope, adjust the CH "+" or "–" buttons on the front panel or the Digit-key remote controller so that the 3 MHz is set at 3.6 ± 0.4 scale (–1 ± 1.0 dB) while observing Y OUT of the S output. (See Fig. 3-3-7.)
(6) Set the normal VCR mode by pressing the "K" button of the presetting unit again so adjustment data is memorized.
(7) Carry out the step (3) and (4) in the S-VHS LP mode.
(8) When assuming the 100 kHz sweep signal marker on the bigger channel is four scales on the oscilloscope, adjust the CH "+" or "–" buttons on the front panel or the Digit-key remote controller so that the 3 MHz is set at 3.2 ± 0.4 scale (–2 ± 1.0 dB) while observing Y OUT of the S output. (See Fig. 3-3-7.)

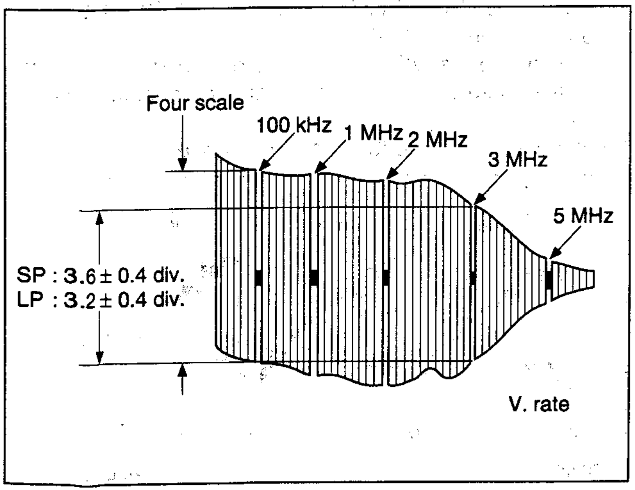


Fig. 3-3-7 S-VHS VIDEO EQ

3.3.5 D/A level

Signal	• Colour bar
Mode	• EE • S-VHS
Equipment	• Oscilloscope
Measurement point	• CN1003-3 pin (Y OUT) [3D SVHS board]
Adjustment part	• VR1401 (D/A LEVEL) [3D SVHS board]
Specification (NOTE)	• 2.05 Vp-p (REFERENCE VALUE)

(1) Connect the oscilloscope to the CN1003-3 pin(Y OUT) on the 3D SVHS board.
(2) Confirm the Y level value during external S input.
(3) Switch the input signal to the external input, then adjust the VR1401 on the 3D SVHS board so that the Y level value becomes the same level value which was confirmed at the step (2).

Note: • ***The adjusted value of 2.05 Vp-p is a reference value which should be obtained during external S input. The value should be adjusted to the one which was confirmed at step (2).***

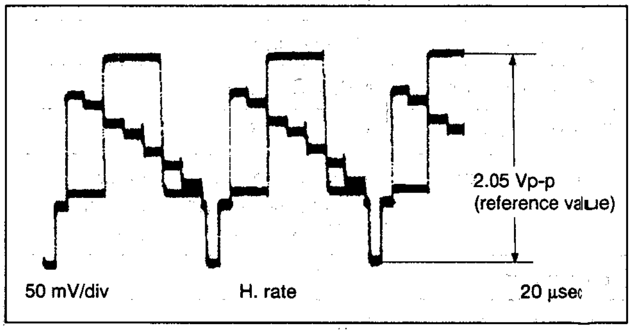


Fig. 3-3-8 D/A LEVEL

3.3.6 Pilot burst level

Signal	• Colour bar
Mode	• EE • S-VHS
Equipment	• Oscilloscope
Measurement point	• TP1001 (FSC PHASE) [3D SVHS board]
Adjustment part	• VR1002 (P. BURST LEVEL) [3D SVHS board]
Specification	• "B" x 110 ± 10%

(1) Connect the oscilloscope to the TP1001 (FSC PHASE) on the 3D SVHS board.
(2) Load an S-VHS tape then set the unit to the S-VHS EE mode.
(3) Adjust the VR1002 of the 3D SVHS so that the pilot burst level becomes "B" x 110 ±10% against the value of the burst level "B".

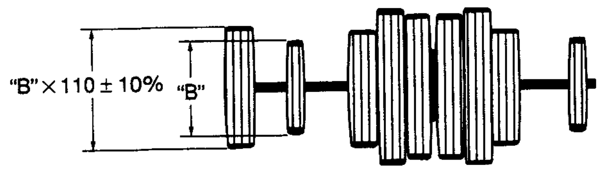


Fig. 3-3-9 PILOT BURST LEVEL

3.3.7 Auto picture

Signal	• Monoscope
Mode	• REC → PB : SP/LP • S-VHS
Adjustment tool	• Presetting unit [PTU94008]
Specification	• STOP mode

Note: • *Use only the "L" button, depressing other buttons during adjustment may cause adjustment errors.*

(1) Record a monoscope signal in the SP mode.
(2) Playback the recorded signal.
(3) Press the "L" button of the presetting unit during playback.
(4) Confirm that the VCR will go into the STOP mode.
(5) Repeat steps (2) to (4) in the LP mode.

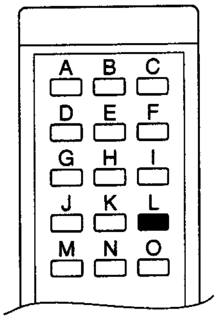


Fig. 3-3-10 Presetting unit

3.4 ON SCREEN CIRCUIT

Note: • *Set the VCR to the mode A by the remote controller.*

3.4.1 Character position

Signal	• No signal
Mode	• EE
Equipment	• TV-monitor
Adjustment tool	• Presetting unit [PTU94008] • Digit-key remote controller
Specification	• Character center

Note: • *Use only the "H" button, depressing other buttons during adjustment may cause adjustment errors.*

(1) Press the MENU button and display the on screen character.
(2) Observe the TV-monitor and center position of character by pressing the "H" button of the presetting unit.

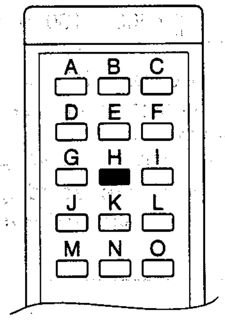


Fig. 3-4-1 Presetting unit

3.5 AUDIO CIRCUIT

Notes:
- *Unless otherwise specified, all measurement point and adjustment parts are located on the MAIN BOARD.*
- *This adjustment should be done after the video circuit SP and LP REC colour level are adjusted.*
- *GND(Ground) should be taken from the tuner board shield.*

3.5.1 REC FM level

Signal	• AUX • VIDEO : Colour bar • AUDIO : No signal
Mode	• REC → PB : LP • S-VHS • B.E.S.T : OFF
Equipment	• Oscilloscope
Measurement point	• TP2253 (A. PB FM)
Trigger slope (–)	• TP111 (D. FF)
Adjustment part	• VR2251 (A. REC. FM)
Specification	• 600 ± 100 mVp-p

(1) Connect an oscilloscope to TP2253.
(2) Record a colour bar signal without an audio signal in the S-VHS LP mode then playback.
(3) Adjust VR2251 for 600 ± 100 mVp-p playback level of higher channel level before recording.
(4) Confirm that the lower channel level is more than 450 mVp-p.

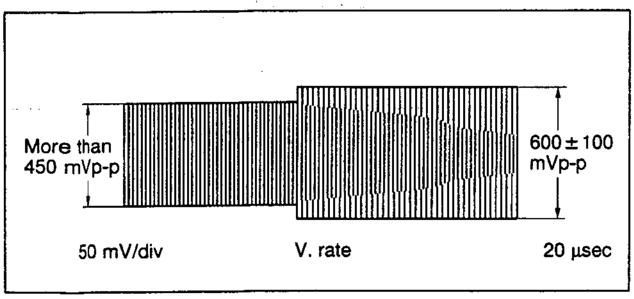


Fig. 3-5-1 Audio REC FM level

SECTION 4
CHARTS AND DIAGRAMS

NOTES OF SCHEMATIC DIAGRAM

Safety precautions
The Components identified by the symbol ⚠ are critical for safety. For continued safety, replace safety critical components only with manufacturer's recommended parts.

1. Units of components on the schematic diagram

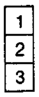
Unless otherwise specified.

1) All resistance values are in ohm, 1/6 W, 1/8 W (refer to parts list).
   Chip resistors are 1/16 W.
   K: KΩ (1000Ω), M: MΩ (1000KΩ)
2) All capacitance values are in µF, (P: PF).
3) All inductance values are in µH, (m: mH).
4) All diodes are 1SS133, MA165 or 1N4148M (refer to parts list).

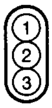
2. Indications of control voltage

AUX : Active at high
$\overline{\text{AUX}}$ or AUX(L) : Active at low

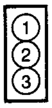
3. Interpreting Connector indications



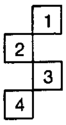
Removable connector



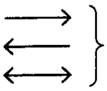
Wire soldered directly on board



Non-removable Board connector



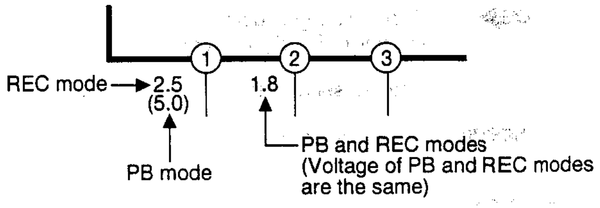
Board to Board



Connected pattern on board
The arrows indicate signal path

4. Voltage measurement

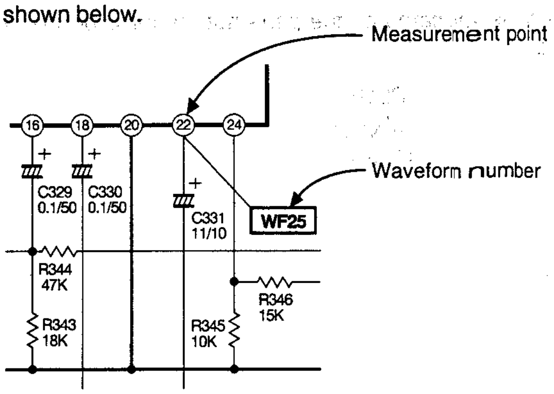
1) Video circuits
   REC : Colour bar signal in SP mode, normal VHS mode
   PB : Alignment tape, colour bar SP mode, normal VHS mode
   — : Unmeasurable or unnecessary to measure
2) Audio circuits
   REC : 1KHz, –8 dBs sine wave signal in SP mode, Normal VHS mode
   PB : REC then playback it
3) Movie Camera circuits
   Measured using a correctly illuminated gray scale or colour bar test charts in the E-E mode
4) Indication on schematic diagram
   Voltage Indications for REC and PB mode on the schematic diagram are as shown below.


1
2
3
REC mode
2.5
(5.0)
1.8
PB mode
PB and REC modes
(Voltage of PB and REC modes are the same)

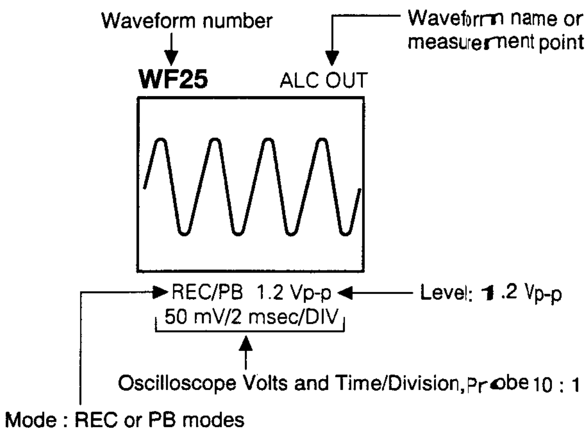
Note: If the voltages are not indicated on the schematic diagram, refer to the voltage charts.

5. Waveform measurement

1) Video circuits
   REC : Colour bar signal in SP mode, normal VHS mode
   PB : Alignment tape, colour bar SP mode, normal VHS mode
2) Audio circuits
   REC : 1KHz, –8 dBs sine wave signal in SP mode, normal VHS mode
   PB : REC then playback it
3) Movie Camera circuits
   Measured using a correctly illuminated gray scale or colour bar test chatrs in the E-E mode
4) Indication on schematic diagram
   Waveform indications on the schematic diagram are as shown below.


Measurement point
16
18
20
22
24
C329 0.1/50
C330 0.1/50
C331 11/10
WF25
Waveform number
R344 47K
R343 18K
R345 10K
R346 15K

5) Waveform indications


Waveform number
Waveform name or measurement point
WF25
ALC OUT
REC/PB 1.2 Vp-p
Level: 1.2 Vp-p
50 mV/2 msec/DIV
Oscilloscope Volts and Time/Division, Probe 10 : 1
Mode : REC or PB modes

6. Signal path Symbols

The arrows indicate the signal path as follows.

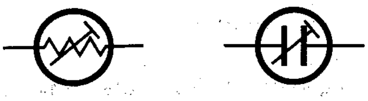
⇨	Playback signal path
➡	Playback and recording signal path
➡	Recording signal path (including E-E signal path)
⇨▷	Capstan servo path
➡▶	Drum servo path

(Example)

⇨ R-Y	Playback R-Y signal path
➡ Y	Recording Y signal path

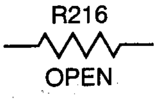
7. Indication of the parts for adjustments

The parts for the adjustments are surrounded with the circle as shown below.



8. Indication of the parts not mounted on the circuit board

"OPEN" is indicated by the parts not mounted on the circuit board.



CIRCUIT BOARD NOTES

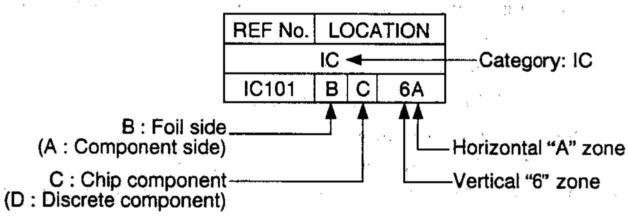
1. Foil and Component sides

1) Foil side (B side) :
Parts on the foil side seen from foil face (pattern face) are indicated.

2) Component side (A side) :
Parts on the component side seen from component face (parts face) indicated.

2. Parts location guides

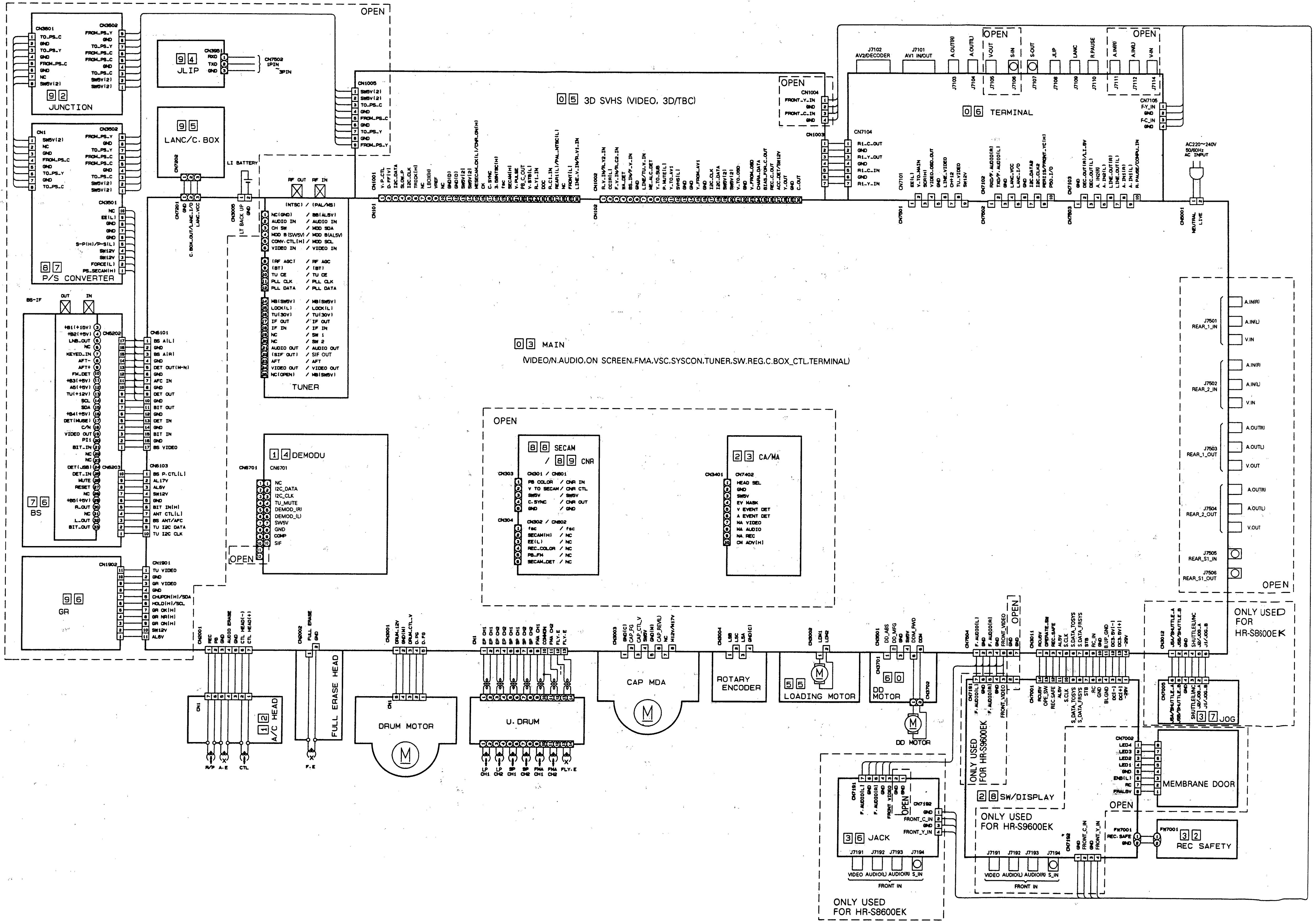
Parts location are indicated by guide scale on the circuit board.


REF No.
LOCATION
IC
Category: IC
IC101
B
C
6A
B : Foil side
(A : Component side)
C : Chip component
(D : Discrete component)
Horizontal "A" zone
Vertical "6" zone

Note:

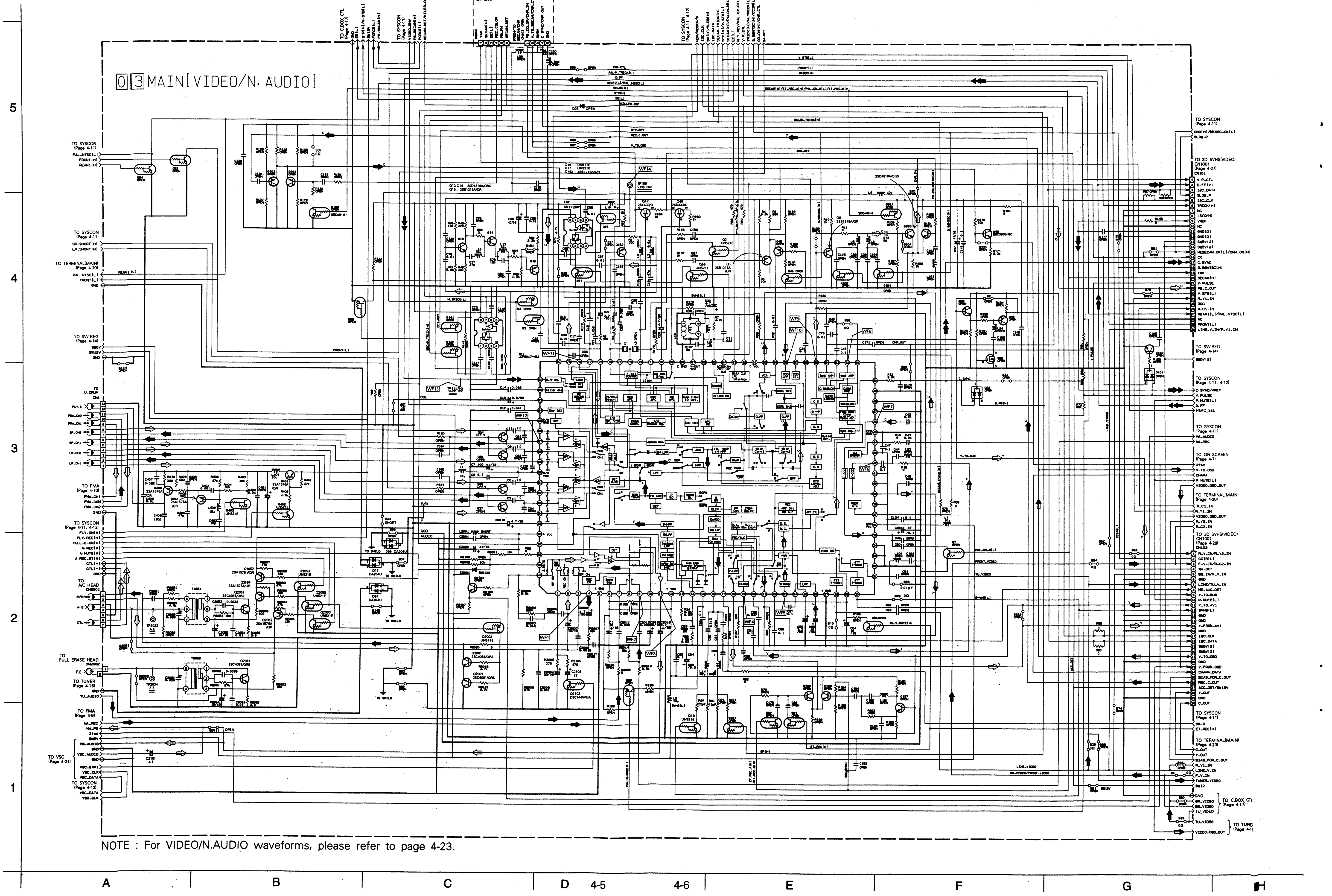
For general information in service manual, please refer to the Service Manual of GENERAL INFORMATION Edition 4 No. 82054D (January 1994).

4.1 BOARD INTERCONNECTIONS


OPEN
9 2 JUNCTION
CN3601
CN3602
9 4 JLIP
CN3951
CN7502 (5PIN → 3PIN)
9 5 LANC/C. BOX
LI BATTERY
RF OUT
RF IN
8 7 P/S CONVERTER
CN3501
CN1
CN3502
BS-IF
OUT
IN
7 6 BS
CN5202
CN5203
CN5101
CN5103
9 6 GR
CN1902
CN1901
TUNER
(NTSC) / (PAL/MS)
1 4 DEMODU
CN6701
0 5 3D SVHS (VIDEO, 3D/TBC)
CN1005
CN1001
CN1002
CN1003
CN1004
0 6 TERMINAL
J7102 AV2/DECODER
J7101 AV1 IN/OUT
CN7104
CN7101
CN7102
CN7103
CN7105
AC220~240V 50/60Hz AC INPUT
0 3 MAIN
(VIDEO/N.AUDIO,ON SCREEN,FMA,VSC,SYSCON,TUNER,SW.REG,C.BOX_CTL,TERMINAL)
8 8 SECAM / 8 9 CNR
CN303
CN304
2 3 CA/MA
CN3401
J7501 REAR_1_IN
J7502 REAR_2_IN
J7503 REAR_1_OUT
J7504 REAR_2_OUT
J7505 REAR_S1_IN
J7506 REAR_S1_OUT
ONLY USED FOR HR-S8600EK
1 2 A/C HEAD
R/P
A-E
CTL
FULL ERASE HEAD
F-E
DRUM MOTOR
U. DRUM
CAP MDA
ROTARY ENCODER
5 5 LOADING MOTOR
6 0 DD MOTOR
DD MOTOR
3 7 JOG
ONLY USED FOR HR-S9600EK
2 8 SW/DISPLAY
MEMBRANE DOOR
3 2 REC SAFETY
3 6 JACK
J7191 J7192 J7193 J7194
VIDEO AUDIO(L) AUDIO(R) S_IN
FRONT IN
ONLY USED FOR HR-S8600EK

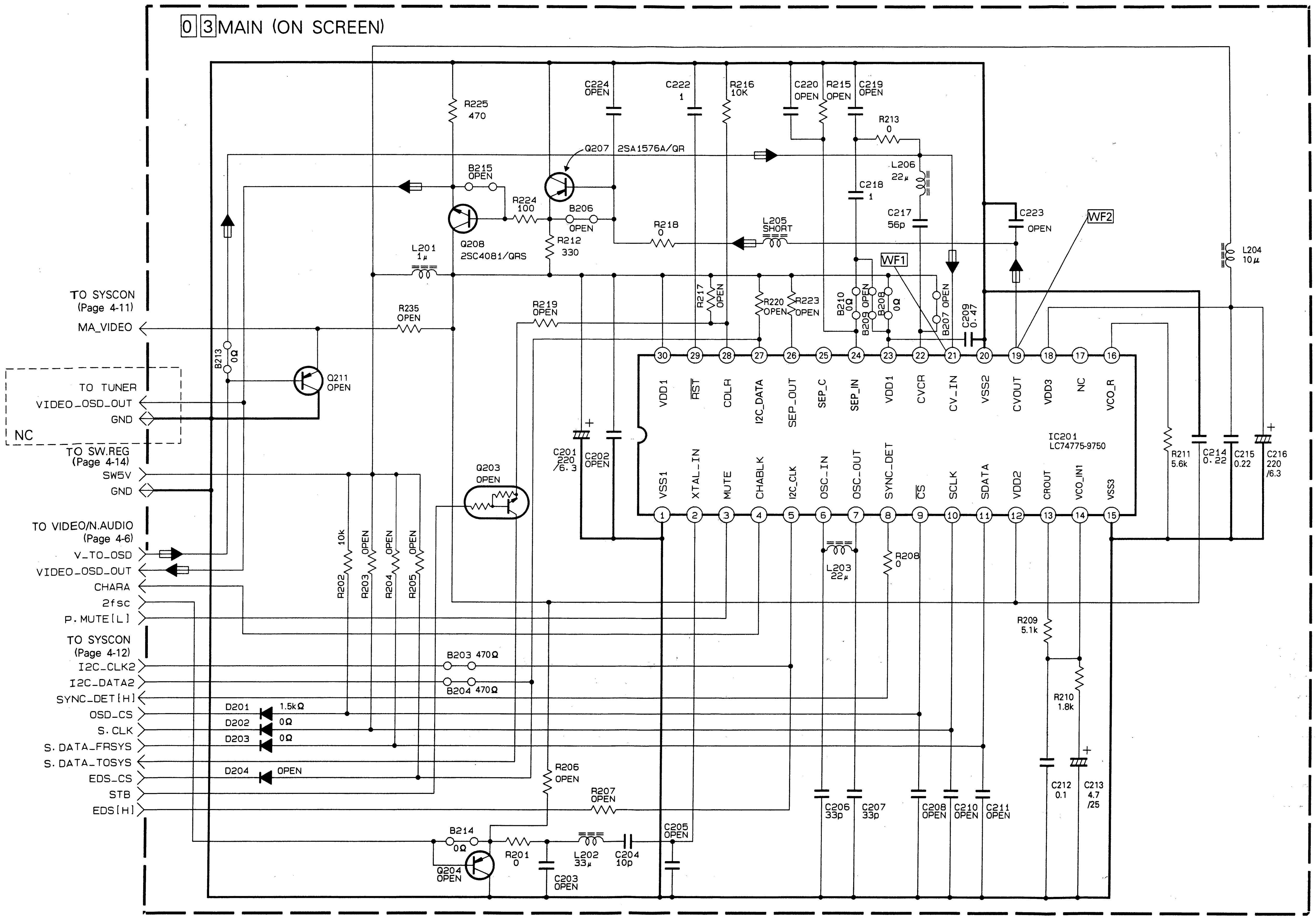
NO	NAME
6 0	DD MOTOR
5 5	LOADING MOTOR
3 7	JOG
3 6	JACK
3 2	REC SAFETY
2 8	SW/DISPLAY
1 4	DEMODU
1 2	A/C HEAD
0 6	TERMINAL
0 5	3D SVHS
0 3	MAIN

4.2 VIDEO/N.AUDIO SCHEMATIC DIAGRAM


03 MAIN[VIDEO/N. AUDIO]
TO SYSCON (Page 4-11)
PAL_NTSC[L]
FRONT[H]
REAR1[H]
TO SYSCON (Page 4-11)
SP_SHORT[H]
LP_SHORT[H]
TO TERMINAL(MAIN) (Page 4-20)
PAL_NTSC[L]
FRONT[L]
GND
REAR1[L]
TO SW.REG (Page 4-14)
SW5V
SW12V
GND
B101 OPEN
TO U.DRUM CN1
FLY.E
FMA_CH2
FMA_CH1
SP_CH2
SP_CH1
LP_CH2
LP_CH1
TO FMA (Page 4-10)
FMA_CH1
FMA_COM
FMA_CH2
GND
TO SYSCON (Page 4-11, 4-12)
FLY.ON[H]
FLY.REC[H]
FULL_E_ON[H]
N.REC[H]
A.MUTE[H]
A.REC_ST[H]
CTL[+]
CTL[-]
GND
TO A/C HEAD CN2001
P/R
A.E
CTL
TO FULL ERASE HEAD CN2002
F.E
TO TUNER (Page 4-16)
GND
TU_AUDIO
TO FMA (Page 4-9)
NA_REC
NA_PB
2fsc
SW5V
PB_AUDIO
GND
VSC_AUDIO
GND
VSC_EXP1
VSC_CLK
VSC_DATA
TO VSC (Page 4-21)
TO SYSCON (Page 4-12)
VSC_DATA
VSC_CLK
TO C BOX CTL (Page 4-17)
TO SYSCON (Page 4-11)
OPEN
TO SYSCON (Page 4-11, 4-12)
WF1
WF2
WF3
WF4
WF5
WF6
WF7
WF8
WF9
WF10
WF11
WF12
WF13
WF14
TO SYSCON (Page 4-11)
CNR[H]/MESEC_CK[L]
SLOW_P
TO 3D SVHS(VIDEO) CN1001 (Page 4-27) CN101
1 V.P_CTL
2 D.FF[V]
3 I2C_DATA
4 SLOW_P
5 I2C_CLK
6 TRICK[H]
7 NC
8 LBOX(H)
9 VREF
10 NC
11 GND[D]
12 GND[D]
13 SW5V[2]
14 SW5V[2]
15 MESECAM_CK[L]/CNR_ON[H]
16 CK
17 C.SYNC
18 3.58NTSC[H]
19 fsc
20 SECAM[H]
21 V.PULSE
22 PB_C_OUT
23 V.STB[L]
24 R_Y1_IN
25 DOC
26 R_C1_IN
27 REAR1[L]/PAL_NTSC[L]
28 NC
29 FRONT[L]
30 LINE_V_IN/R_Y1_IN
TO SW.REG (Page 4-14)
SW5V[2]
TO SYSCON (Page 4-11, 4-12)
C.SYNC/VREF
V.PULSE
P.MUTE[L]
D.FF
HEAD_SEL
TO SYSCON (Page 4-11)
NA_AUDIO
NA_REC
TO ON SCREEN (Page 4-7)
2fsc
V_TO_OSD
CHARA
P.MUTE[L]
VIDEO_OSD_OUT
TO TERMINAL(MAIN) (Page 4-20)
R_C1_IN
R_Y1_IN
VIDEO_OSD_OUT
R_Y2_IN
R_C2_IN
TO 3D SVHS(VIDEO) CN1002 (Page 4-28) CN102
1 R_V_IN/R_Y2_IN
2 CCIR[L]
3 F_V_IN/R_C2_IN
4 NA_DET
5 BS_IN/F_V_IN
6 GND
7 LINE/TU_V_IN
8 ME_ALC_DET
9 Y_TO_SUB
10 P.MUTE[L]
11 Y_TO_AV1
12 SVHS[L]
13 GND
14 GND
15 Y_FROM_AV1
16 GND
17 I2C_CLK
18 I2C_DATA
19 SW5V[2]
20 SW5V[2]
21 V_TO_OSD
22 GND
23 V_FROM_OSD
24 CHARA_DATA
25 BIAS_FOR_C_OUT
26 REC_C_OUT
27 ACC_DET/SW12V
28 Y_OUT
29 GND
30 C_OUT
TO SYSCON (Page 4-11)
SB_G
ET_REC[H]
TO TERMINAL(MAIN) (Page 4-20)
C_OUT
Y_OUT
BIAS_FOR_C_OUT
R_V1_IN
LINE_V_IN
F_V_IN
TUNER_VIDEO
SW12
GND
GR_VIDEO
BS_VIDEO
TU_VIDEO
TO C.BOX CTL (Page 4-17)
TU_VIDEO
VIDEO_OSD_OUT
TO TUNER (Page 4-16)
5
4
3
2
1
A
B
C
D
E
F
G
H

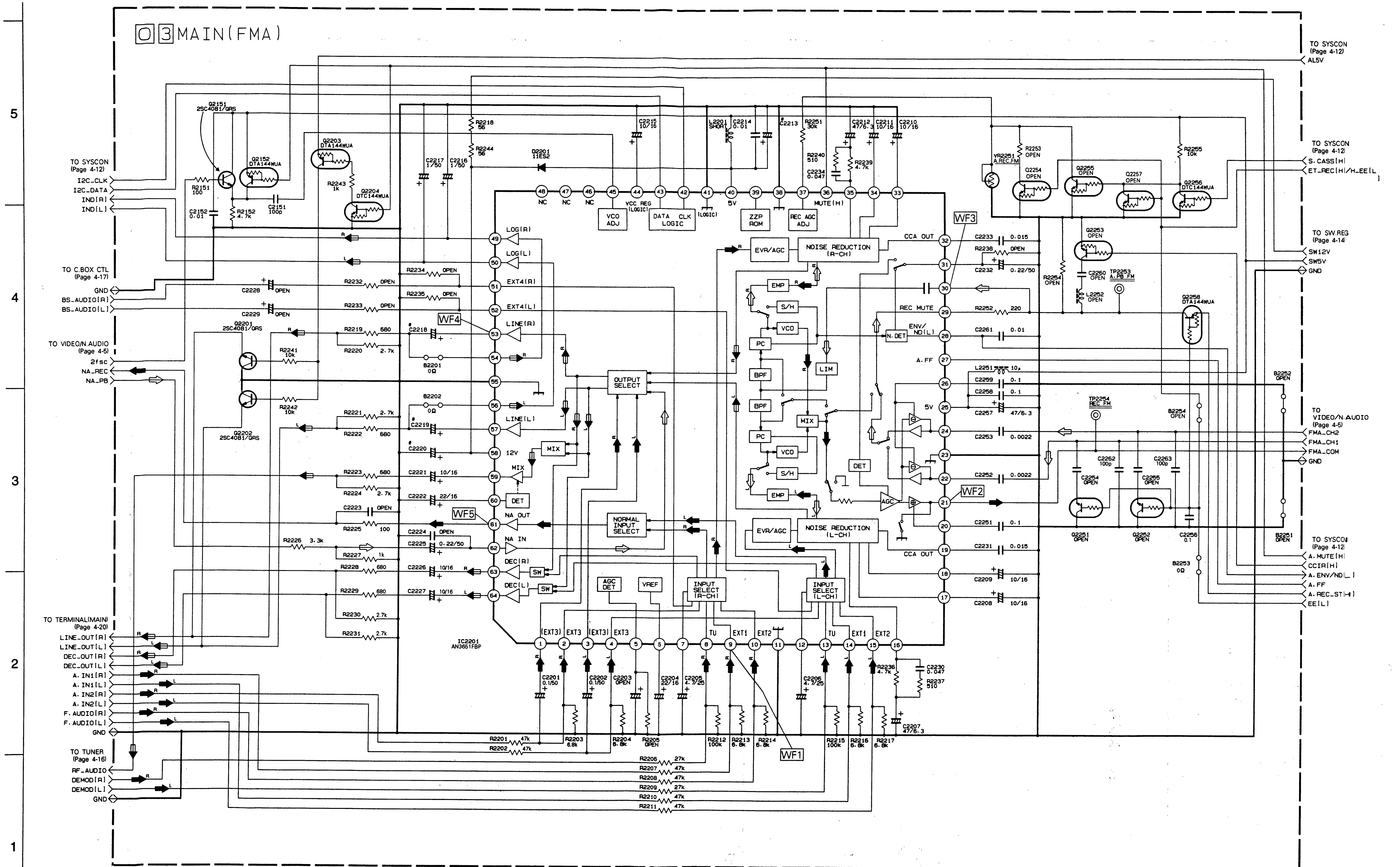
NOTE : For VIDEO/N.AUDIO waveforms, please refer to page 4-23.

4.3 ON SCREEN SCHEMATIC DIAGRAM


03 MAIN (ON SCREEN)
TO SYSCON (Page 4-11)
MA_VIDEO
TO TUNER
VIDEO_OSD_OUT
GND
NC
TO SW.REG (Page 4-14)
SW5V
GND
TO VIDEO/N.AUDIO (Page 4-6)
V_TO_OSD
VIDEO_OSD_OUT
CHARA
2fsc
P.MUTE[L]
TO SYSCON (Page 4-12)
I2C_CLK2
I2C_DATA2
SYNC_DET[H]
OSD_CS
S.CLK
S.DATA_FRSYS
S.DATA_TOSYS
EDS_CS
STB
EDS[H]
R225 470
B215 OPEN
R224 100
Q208 2SC4081/QRS
Q207 2SA1576A/QR
B206 OPEN
R212 330
L201 1μ
R235 OPEN
R219 OPEN
B213 0Ω
Q211 OPEN
Q203 OPEN
C224 OPEN
C222 1
R216 10K
C220 OPEN
R215 OPEN
C219 OPEN
R213 0
L206 22μ
C218 1
C217 56p
R218 0
L205 SHORT
C223 OPEN
WF1
WF2
L204 10μ
R217 OPEN
R220 OPEN
R223 OPEN
B210 0Ω
B209 OPEN
B208 0Ω
B207 OPEN
C209 0.47
C201 220 /6.3
C202 OPEN
VDD1 RST CDLR I2C_DATA SEP_OUT SEP_C SEP_IN VDD1 CVCR CV_IN VSS2 CVOUT VDD3 NC VCO_R
VSS1 XTAL_IN MUTE CHABLK I2C_CLK OSC_IN OSC_OUT SYNC_DET CS SCLK SDATA VDD2 CROUT VCO_IN1 VSS3
IC201 LC74775-9750
R211 5.6k
C214 0.22
C215 0.22
C216 220 /6.3
L203 22μ
R208 0
R202 10k
R203 OPEN
R204 OPEN
R205 OPEN
B203 470Ω
B204 470Ω
D201 1.5kΩ
D202 0Ω
D203 0Ω
D204 OPEN
R206 OPEN
R207 OPEN
R209 5.1k
R210 1.8k
C212 0.1
C213 4.7 /25
C206 33p
C207 33p
C208 OPEN
C210 OPEN
C211 OPEN
B214 0Ω
Q204 OPEN
R201 0
L202 33μ
C204 10p
C203 OPEN
C205 OPEN

NOTE: For ON SCREEN waveforms, please refer to page 4-23.

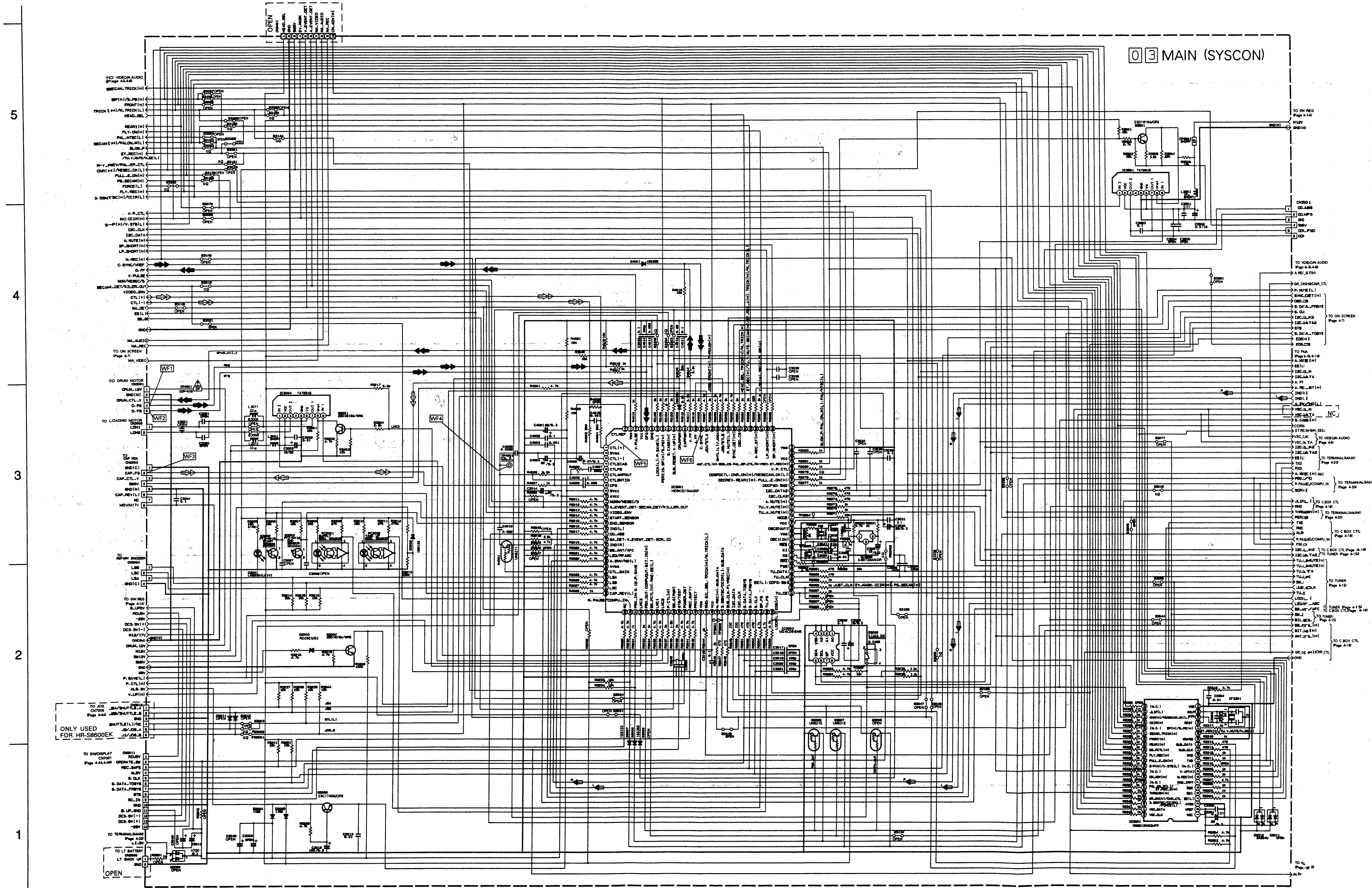
4.4 FMA SCHEMATIC DIAGRAM


03 MAIN(FMA)
5
4
3
2
1
TO SYSCON (Page 4-12)
I2C_CLK
I2C_DATA
IND[R]
IND[L]
TO C.BOX CTL (Page 4-17)
GND
BS_AUDIO[R]
BS_AUDIO[L]
TO VIDEO/N.AUDIO (Page 4-5)
2fsc
NA_REC
NA_PB
TO TERMINAL(MAIN) (Page 4-20)
LINE_OUT[R]
LINE_OUT[L]
DEC_OUT[R]
DEC_OUT[L]
A.IN1[R]
A.IN1[L]
A.IN2[R]
A.IN2[L]
F.AUDIO[R]
F.AUDIO[L]
GND
TO TUNER (Page 4-16)
RF_AUDIO
DEMOD[R]
DEMOD[L]
GND
Q2151 2SC4081/QRS
Q2152 DTA144WUA
R2151 100
C2152 0.01
R2152 4.7k
C2151 100p
Q2203 DTA144WUA
R2243 1k
Q2204 DTC144WUA
Q2201 2SC4081/QRS
Q2202 2SC4081/QRS
R2241 10k
R2242 10k
C2228 OPEN
C2229 OPEN
C2217 1/50
C2216 1/50
R2218 56
R2244 56
D2201 11ES2
C2215 10/16
L2201 SHORT
C2214 0.01
C2213
R2251 30k
R2240 510
C2234 0.047
R2239 4.7k
C2212 47/6.3
C2211 10/16
C2210 10/16
48 NC
47 NC
46 NC
45
44 VCC REG (LOGIC)
43
42
41 (LOGIC)
40 5V
39
38
37
36 MUTE(H)
35
34
33
VCO ADJ
DATA CLK LOGIC
ZZP ROM
REC AGC ADJ
LOG(R)
LOG(L)
EXT4(R)
EXT4(L)
LINE(R)
LINE(L)
12V
MIX
DET
NA OUT
NA IN
DEC(R)
DEC(L)
SW
R2234 OPEN
R2235 OPEN
R2232 OPEN
R2233 OPEN
R2219 680
R2220 2.7k
C2218
B2201 0Ω
B2202 0Ω
R2221 2.7k
R2222 680
C2219
C2220
R2223 680
R2224 2.7k
C2221 10/16
C2222 22/16
C2223 OPEN
R2225 100
C2224 OPEN
C2225 0.22/50
R2226 3.3k
R2227 1k
R2228 680
C2226 10/16
R2229 680
C2227 10/16
R2230 2.7k
R2231 2.7k
WF4
WF5
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
OUTPUT SELECT
NORMAL INPUT SELECT
AGC DET
VREF
INPUT SELECT (R-CH)
INPUT SELECT (L-CH)
IC2201 AN3651FBP
(EXT3)
EXT3
(EXT3)
EXT3
TU
EXT1
EXT2
TU
EXT1
EXT2
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
C2201 0.1/50
C2202 0.1/50
C2203 OPEN
C2204 22/16
C2205 4.7/25
C2206 4.7/25
R2236 4.7k
C2230 0.047
R2237 510
C2207 47/6.3
R2201 47k
R2202 47k
R2203 6.8k
R2204 6.8k
R2205 OPEN
R2212 100k
R2213 6.8k
R2214 6.8k
R2215 100k
R2216 6.8k
R2217 6.8k
WF1
R2206 27k
R2207 47k
R2208 47k
R2209 27k
R2210 47k
R2211 47k
EVR/AGC
NOISE REDUCTION (R-CH)
NOISE REDUCTION (L-CH)
EMP
S/H
VCO
PC
BPF
LIM
MIX
DET
REC MUTE
ENV/ND(L)
N.DET
A.FF
5V
AGC
CCA OUT
WF3
WF2
32
31
30
29
28
27
26
25
24
23
22
21
20
19
18
17
C2233 0.015
R2238 OPEN
C2232 0.22/50
R2252 220
C2261 0.01
L2251 10μ
C2259 0.1
C2258 0.1
C2257 47/6.3
C2253 0.0022
C2252 0.0022
C2251 0.1
C2231 0.015
C2209 10/16
C2208 10/16
VR2251 A.REC.FM
R2253 OPEN
Q2254 OPEN
Q2255 OPEN
Q2257 OPEN
R2255 10k
Q2256 DTC144WUA
Q2253 OPEN
R2254 OPEN
C2260 OPEN
TP2253 A.PB FM
L2252 OPEN
Q2258 DTA144WUA
TP2254 REC FM
C2262 100p
C2263 100p
C2254 OPEN
C2255 OPEN
Q2251 OPEN
Q2252 OPEN
C2256 0.1
B2252 OPEN
B2254 OPEN
B2253 0Ω
B2251 OPEN
TO SYSCON (Page 4-12)
AL5V
TO SYSCON (Page 4-12)
S.CASS[H]
ET_REC[H]/H_EE[L]
TO SW.REG (Page 4-14)
SW12V
SW5V
GND
TO VIDEO/N.AUDIO (Page 4-5)
FMA_CH2
FMA_CH1
FMA_COM
GND
TO SYSCON (Page 4-12)
A.MUTE[H]
CCIR[H]
A.ENV/ND[L]
A.FF
A.REC_ST[H]
EE[L]
R
L

NOTES: 1. For FMA waveforms, please refer to page 4-23.
2. Comparison chart of models & marks(#).

	REF.NO.	C2213	C2218 C2219	C2220
MODEL	HR-S8600EK	47 μF/6.3V	10 μF/16V	47 μF/16V
	HR-S9600EK	47 μF/25V	22 μF/25V	47 μF/25V

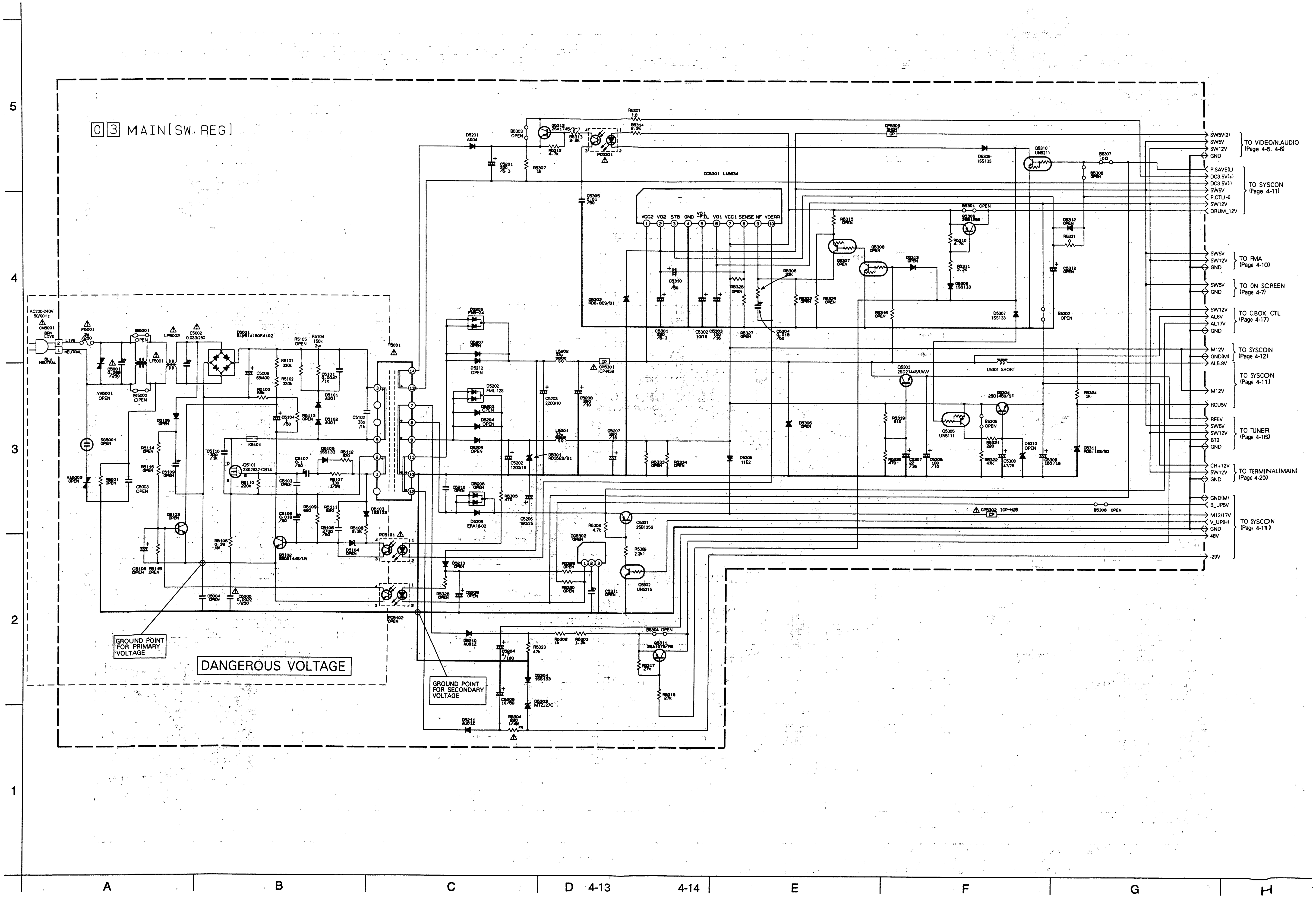
4.5 SYSTEM CONTROL SCHEMATIC DIAGRAM



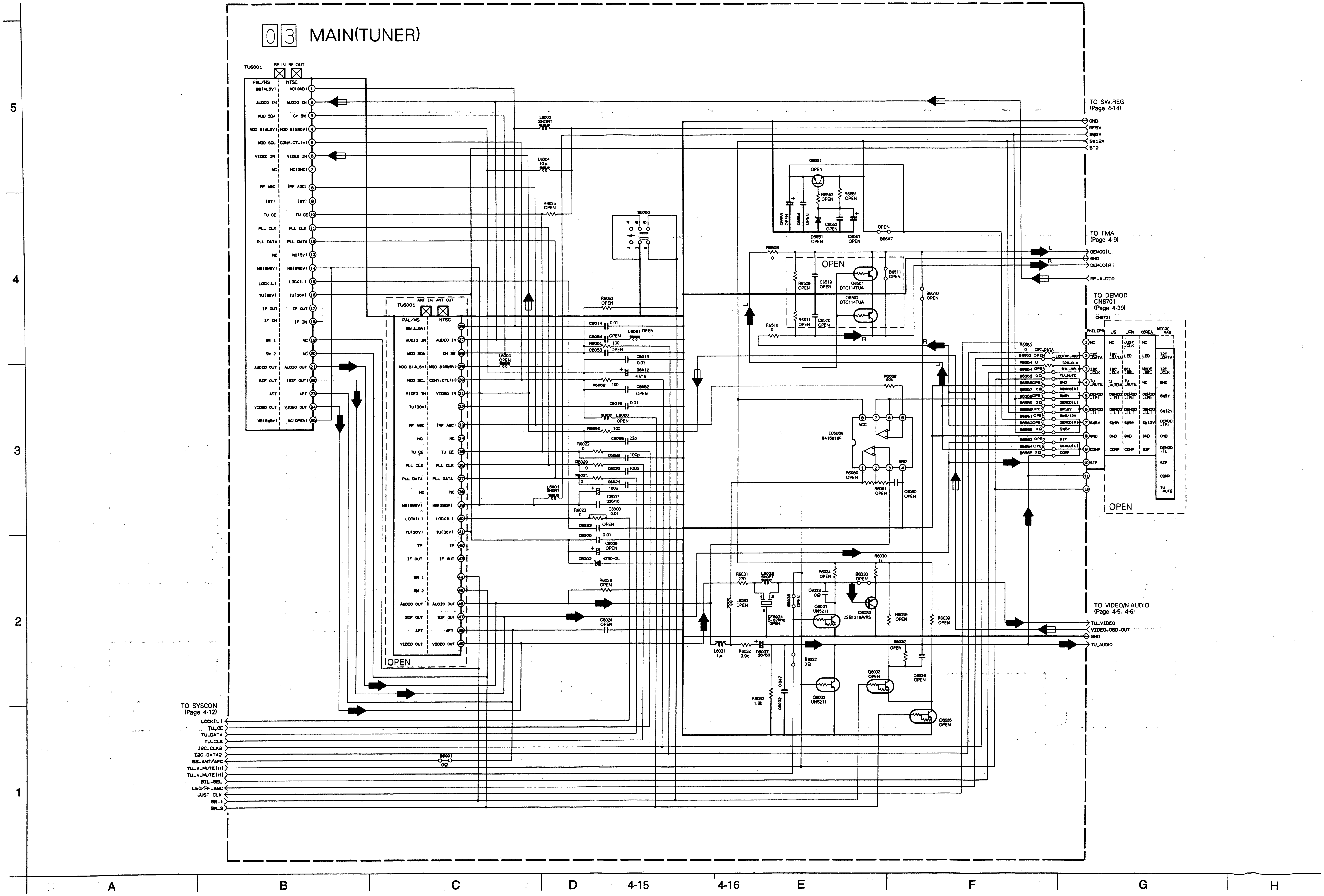
03 MAIN (SYSCON)
OPEN
WF1
WF2
WF3
WF4
WF5
WF6
NC
ONLY USED FOR HR-S8600EK
IC3001
1
2
3
4
5
A
B
C
D
E
F
G
H

NOTES: 1. For SYSCON waveforms, please refer to page 4-23.
2. The SYSTEM CONTROL circuit of this model has an automatic recognition about the ON/OFF control of the DOCTOR SYSTEM.
3. The parts (B3001,B3002,B3063) marked with (#) are used only with HR-S8600EK.

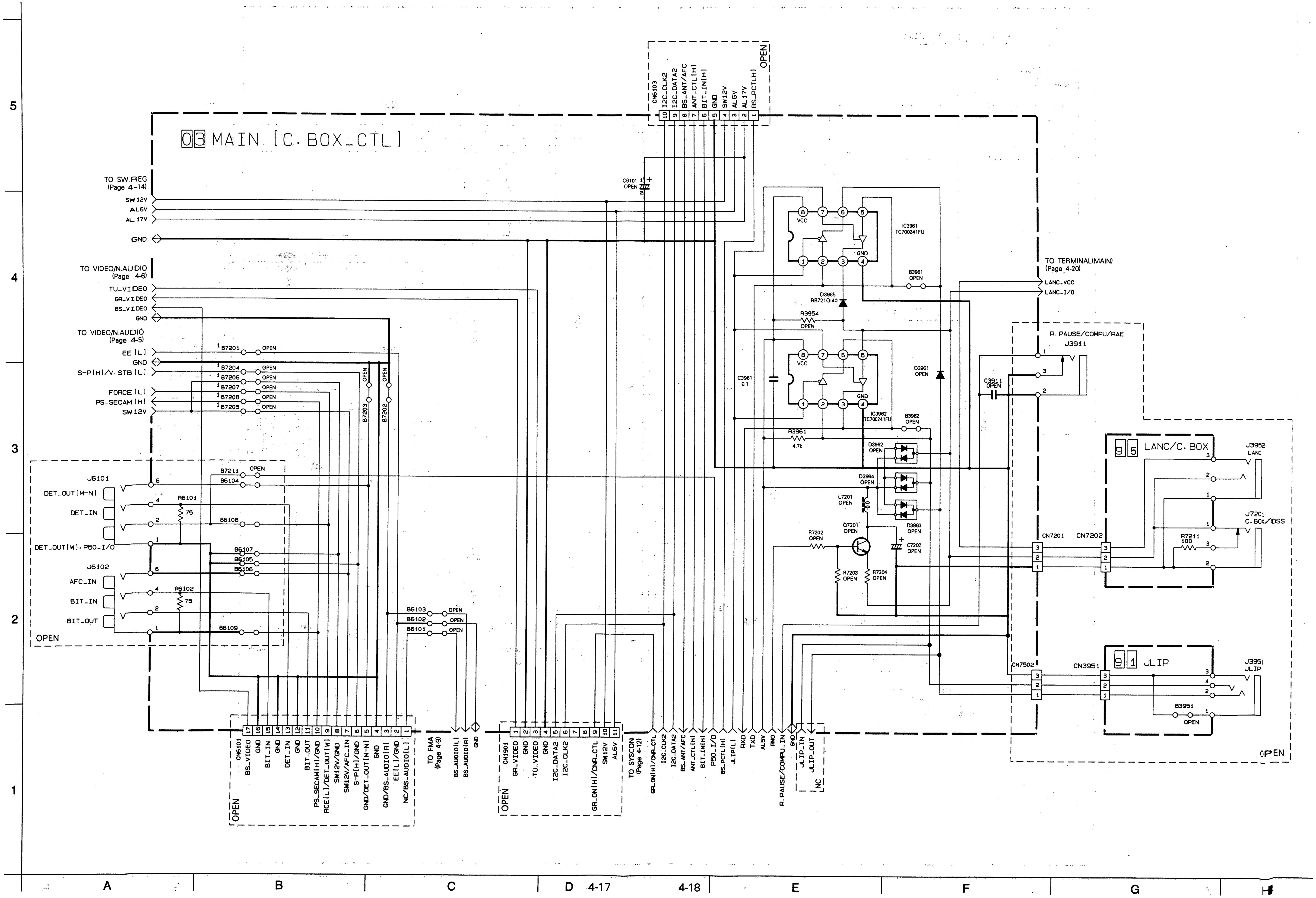
4.6 SWITCHING REGULATOR SCHEMATIC DIAGRAM


03 MAIN[SW. REG]
AC220-240V 50/60Hz
CN5001
BRN LIVE
BLU NEUTRAL
LIVE
NEUTRAL
F5001 2A /250
B5001 OPEN
B5002 OPEN
LF5001
LF5002
C5001 0.068 /250
C5002 0.033/250
VA5001 OPEN
VA5002 OPEN
SG5001 OPEN
R5001 OPEN
C5003 OPEN
D5001 S1WB(A)60F4102
R5105 OPEN
R5104 150k 2w
R5101 330k
R5102 330k
C5005 68/400
R5103 68k
C5101 0.0047 /1k
D5101 AU01
D5102 AU01
C5102 33p /1k
C5104 /50
R5113 OPEN
T5001
D5105 OPEN
R5114 OPEN
R5116 OPEN
C5109 OPEN
C5110 330 /1k
K5101
Q5101 2SK2632-CB14
R5110 220k
C5103 OPEN
C5107 0.1 /50
D5105 1SS133
R5112 820
R5107 330 1/2W
C5105 0.018 /50
R5109 680
R5111 820
C5106 2700 /50
R5108 2.2k
D5103 1SS133
D5104 OPEN
Q5103 OPEN
R5106 0.39 1W
Q5102 2SD2144S/UW
C5108 OPEN
R5115 OPEN
C5004 OPEN
C5005 0.0022 /250
PC5101
PC5102 OPEN
GROUND POINT FOR PRIMARY VOLTAGE
DANGEROUS VOLTAGE
GROUND POINT FOR SECONDARY VOLTAGE
D5201 AK04
C5201 220 /6.3
B5303 OPEN
Q5312 2SA1745/6-7
R5312 4.7k
R5313 2.2k
R5307 1k
R5301 1.8
R5314 2.2k
PC5301
C5305 0.01 /50
IC5301 LA5634
VCC2 VO2 STB GND VO1 FIL VO1 VCC1 SENSE NF VOERR
CP5303 SHORT CP
D5309 1SS133
Q5310 UN5211
B5307 0Ω
B5306 OPEN
B5301 OPEN
Q5308 2SB1256
R5310 4.7k
R5311 2.2k
D5308 1SS133
C5312 OPEN
R5331 0
R5315 OPEN
Q5306 OPEN
Q5307 OPEN
D5313 OPEN
R5306 33k
C5310 /50
R5326 OPEN
D5302 RD6.8ES/B1
C5301 220 /6.3
C5302 10/16
C5303 100 /16
R5327 OPEN
C5304 0.018 /50
R5332 OPEN
R5325 OPEN
R5316 OPEN
D5307 1SS133
B5302 OPEN
C5312 OPEN
D5205 FMB-24
D5207 OPEN
D5212 OPEN
L5202 33µ
CP CP5301 ICP-N38
C5203 2200/10
C5208 220 /10
D5202 FML-12S
D5203 OPEN
D5204 OPEN
D5206 OPEN
L5201 33µ
C5207 220 /16
C5202 1200/16
D5301 RD15ES/B1
R5333 OPEN
R5334 OPEN
D5305 11E2
D5306 OPEN
Q5303 2SD2144S/UW
L5301 SHORT
Q5304 2SD1450/ST
R5324 1k
R5319 510
R5320 470
C5307 22 /16
C5306 100 /10
Q5305 UN5111
B5305 OPEN
R5321 220
R5322 47k
C5308 47/25
D5310 OPEN
C5309 100/16
D5311 RD6.1ES/B3
C5210 OPEN
D5208 OPEN
D5209 ERA18-02
R5305 470
C5206 180/25
CP5302 ICP-N25 CP
B5308 OPEN
R5308 4.7k
Q5301 2SB1256
IC5302 OPEN
R5309 2.2k
R5329 OPEN
R5330 OPEN
C5311 OPEN
Q5302 UN5215
D5213 OPEN
R5328 OPEN
C5209 OPEN
D5210 AU02
C5204 47 /100
R5302 1k
R5303 1.2k
R5323 47k
B5304 OPEN
Q5311 2SA1576/RS
R5317 27k
R5318 27k
D5304 1SS133
C5205 10/50
D5303 MTZJ27C
D5211 AU02
R5304 220 1/4W
SW5V(2)
SW5V
SW12V
GND
TO VIDEO/N.AUDIO (Page 4-5, 4-6)
P.SAVE(L)
DC3.5V(+)
DC3.5V(-)
SW5V
P.CTL(H)
SW12V
DRUM_12V
TO SYSCON (Page 4-11)
SW5V
SW12V
GND
TO FMA (Page 4-10)
SW5V
GND
TO ON SCREEN (Page 4-7)
SW12V
AL6V
AL17V
GND
TO C.BOX CTL (Page 4-17)
M12V
GND(M)
TO SYSCON (Page 4-12)
AL5.8V
M12V
RCU5V
TO SYSCON (Page 4-11)
RF5V
SW5V
SW12V
BT2
GND
TO TUNER (Page 4-16)
CH+12V
SW12V
GND
TO TERMINAL(MAIN) (Page 4-20)
GND(M)
B_UP5V
M12/17V
V_UP(H)
GND
48V
-29V
TO SYSCON (Page 4-11)
5
4
3
2
1
A
B
C
D
E
F
G
H

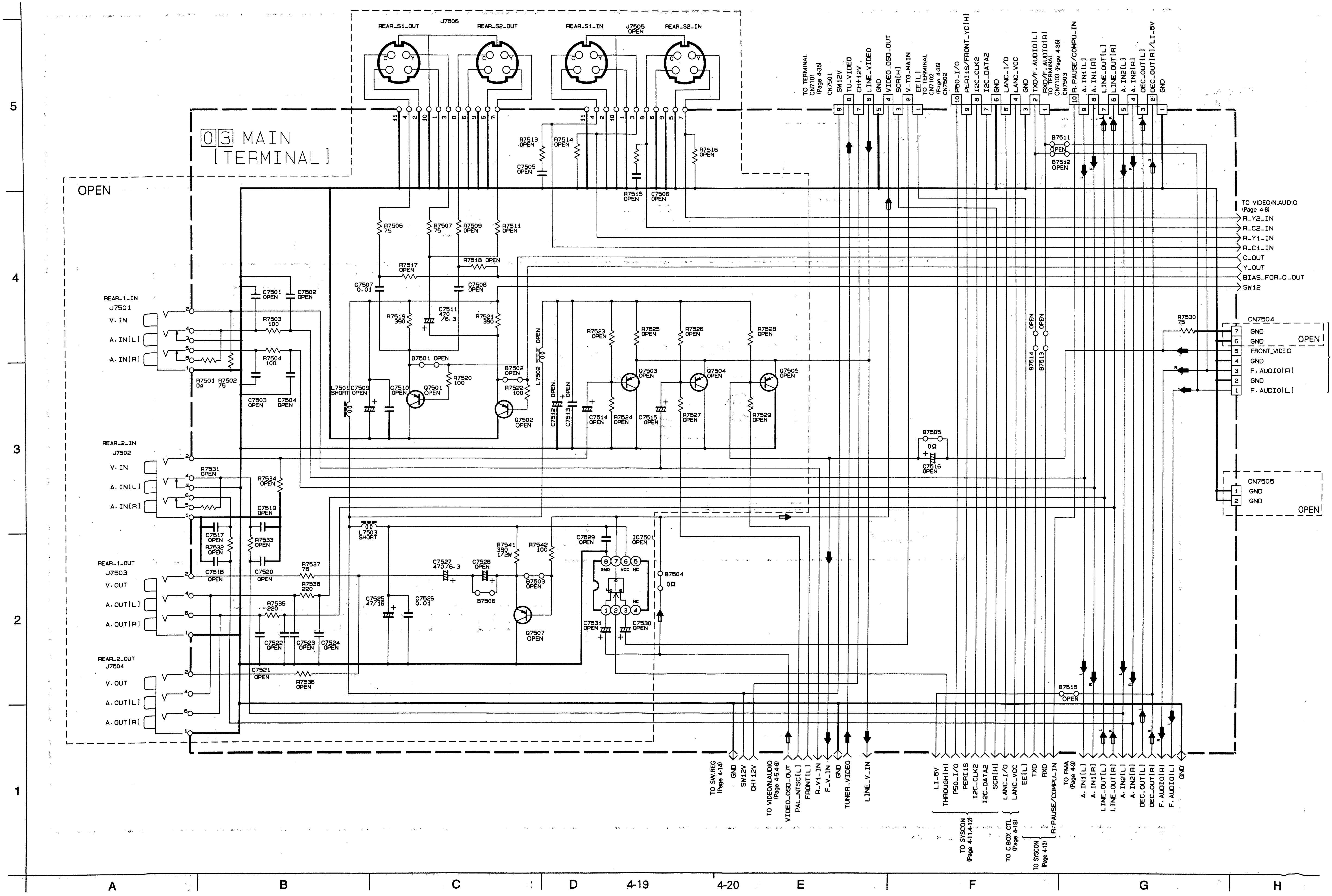
4.7 TUNER SCHEMATIC DIAGRAM


03 MAIN(TUNER)
TU6001
RF IN
RF OUT
PAL/MS
NTSC
BB(AL5V)
NC(GND) 1
AUDIO IN
AUDIO IN 2
MOD SDA
CH SW 3
MOD B(AL5V)
MOD B(SW5V) 4
MOD SCL
CONV.CTL(H) 5
VIDEO IN
VIDEO IN 6
NC
NC(GND) 7
RF AGC
(RF AGC) 8
(BT)
(BT) 9
TU CE
TU CE 10
PLL CLK
PLL CLK 11
PLL DATA
PLL DATA 12
NC
NC(5V) 13
MB(SW5V)
MB(SW5V) 14
LOCK(L)
LOCK(L) 15
TU(30V)
TU(30V) 16
IF OUT
IF OUT 17
IF IN
IF IN 18
SW 1
NC 19
SW 2
NC 20
AUDIO OUT
AUDIO OUT 21
SIF OUT
(SIF OUT) 22
AFT
AFT 23
VIDEO OUT
VIDEO OUT 24
MB(SW5V)
NC(OPEN) 25
TU6001
ANT IN
ANT OUT
OPEN
L6002 SHORT
L6004 10µ
R6025 OPEN
L6003 OPEN
L6001 SHORT
S6050
R6053 OPEN
C6014 0.01
C6054 OPEN
L6051 OPEN
R6051 100
C6053 OPEN
C6013 0.01
C6012 47/16
R6052 100
C6052 OPEN
C6016 0.01
L6050 OPEN
R6050 100
C6055 22p
R6022 0
C6022 100p
R6020 0
C6020 100p
R6021 0
C6021 100p
C6007 330/10
R6023 0
C6008 0.01
C6023 OPEN
C6006 0.01
C6005 OPEN
D6002 HZ30-2L
R6038 OPEN
C6024 OPEN
B6001 0Ω
Q6551 OPEN
R6552 OPEN
R6551 OPEN
C6553 OPEN
C6554 OPEN
D6551 OPEN
C6552 OPEN
C6551 OPEN
OPEN
B6507
R6508 0
OPEN
R6509 OPEN
C6519 OPEN
Q6501 DTC114TUA
B6511 OPEN
Q6502 DTC114TUA
R6511 OPEN
C6520 OPEN
R6510 0
B6510 OPEN
L
R
R6082 10k
IC6080 BA15218F
VCC
GND
R6080 OPEN
R6081 OPEN
C6080 OPEN
R6030 1k
R6034 OPEN
B6030 OPEN
R6031 270
L6032 SHORT
L6080 OPEN
C6033 0Ω
B6033 OPEN
CF6031 5.74MHz OPEN
Q6031 UN5211
Q6030 2SB1218A/RS
R6035 OPEN
R6039 OPEN
L6031 1µ
R6032 3.9k
C6037 10/50
B6032 0Ω
R6037 OPEN
C6036 OPEN
R6033 1.8k
C6032 0.047
Q6032 UN5211
Q6033 OPEN
Q6035 OPEN
TO SW.REG (Page 4-14)
GND
RF5V
SW5V
SW12V
BT2
TO FMA (Page 4-9)
DEMOD(L)
GND
DEMOD(R)
RF_AUDIO
TO DEMOD CN6701 (Page 4-39)
CN6701
PHILIPS
US
JPN
KOREA
MICRO NAS
R6553 0
I2C_DATA
B6552 OPEN
LED/RF_AGC
R6554 0
I2C_CLK
B6554 OPEN
BIL_SEL
B6555 0Ω
TU_MUTE
B6556 OPEN
GND
B6557 0Ω
DEMOD(R)
B6558 OPEN
SW5V
B6559 0Ω
DEMOD(L)
B6560 OPEN
SW12V
B6561 OPEN
SW9/12V
B6562 OPEN
DEMOD(R)
B6566 0Ω
SW5V
B6563 OPEN
SIF
B6564 OPEN
DEMOD(L)
B6565 0Ω
COMP
1 NC
2 I2C_DATA
3 I2C_CLK
4 TU_MUTE
5 DEMOD_(R)
6 DEMOD_(L)
7 SW5V
8 GND
9 COMP
10 SIF
11
12
NC
JUST_CLK
NC
I2C_DATA
LED
LED
I2C_DATA
I2C_CLK
BIL_SEL
MODE_SEL
I2C_CLK
TU_MUTE(H)
TU_MUTE
NC
GND
DEMOD_(R)
DEMOD_(R)
DEMOD_(R)
SW5V
DEMOD_(L)
DEMOD_(L)
DEMOD_(L)
SW12V
SW9V
SW9V
SW12V
DEMOD_(R)
GND
GND
GND
GND
COMP
COMP
SIF
DEMOD_(L)
SIF
COMP
TU_MUTE
OPEN
TO VIDEO/N.AUDIO (Page 4-5, 4-6)
TU_VIDEO
VIDEO_OSD_OUT
GND
TU_AUDIO
TO SYSCON (Page 4-12)
LOCK(L)
TU_CE
TU_DATA
TU_CLK
I2C_CLK2
I2C_DATA2
BS_ANT/AFC
TU_A_MUTE(H)
TU_V_MUTE(H)
BIL_SEL
LED/RF_AGC
JUST_CLK
SW_1
SW_2
5
4
3
2
1
A
B
C
D
E
F
G
H

4.8 C.BOX CTL SCHEMATIC DIAGRAM

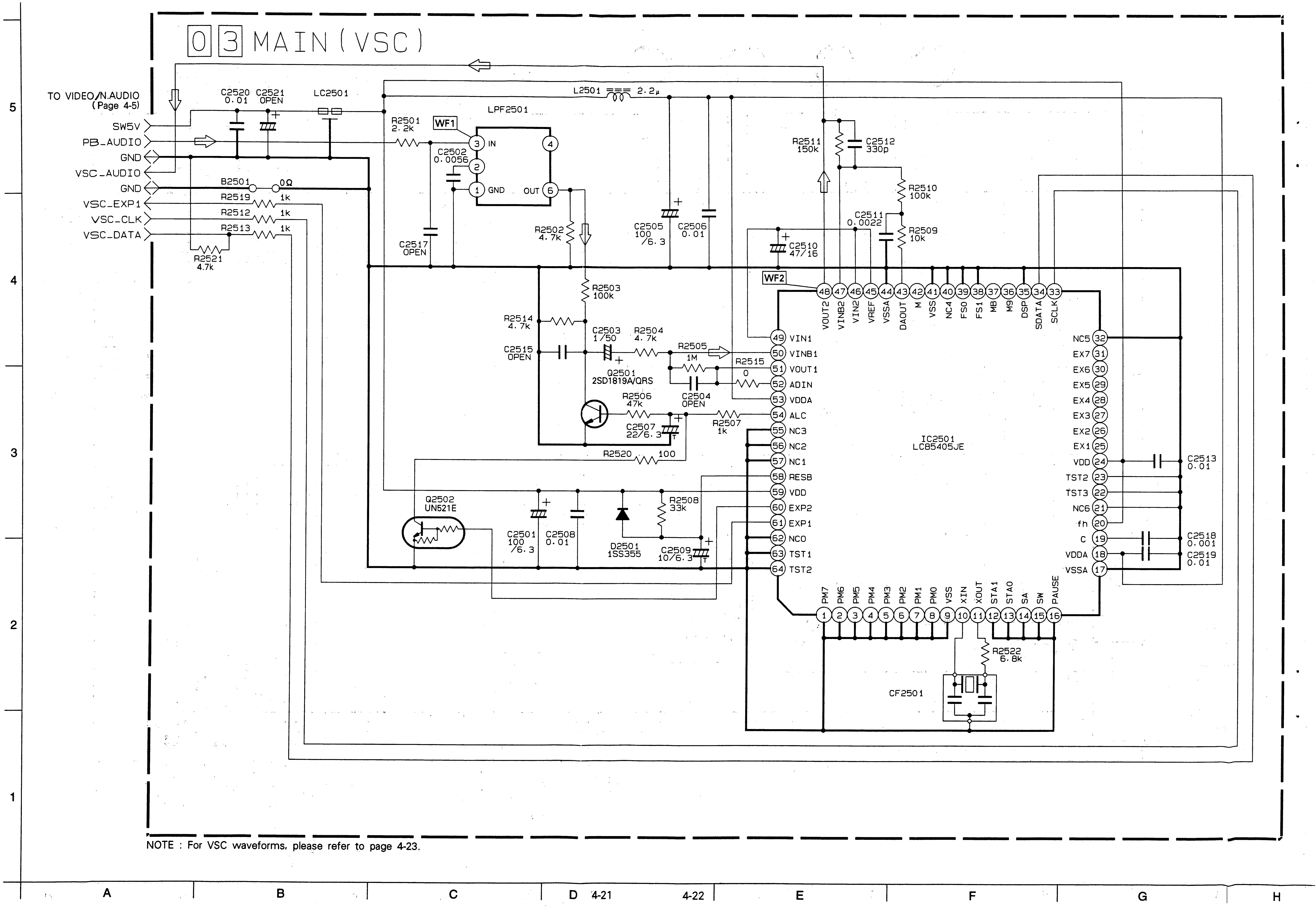

03 MAIN [C.BOX_CTL]
TO SW.REG (Page 4-14)
SW12V
AL6V
AL17V
GND
TO VIDEO/N.AUDIO (Page 4-6)
TU_VIDEO
GR_VIDEO
BS_VIDEO
GND
TO VIDEO/N.AUDIO (Page 4-5)
EE[L]
GND
S-P[H]/V.STB[L]
FORCE[L]
PS_SECAM[H]
SW12V
B7201 OPEN
B7204 OPEN
B7206 OPEN
B7207 OPEN
B7208 OPEN
B7205 OPEN
B7203 OPEN
B7202 OPEN
J6101
DET_OUT[M-N]
DET_IN
DET_OUT[W]·P50_I/O
R6101 75
J6102
AFC_IN
BIT_IN
BIT_OUT
R6102 75
OPEN
B7211 OPEN
B6104
B6108
B6107
B6105
B6106
B6109
B6103 OPEN
B6102 OPEN
B6101 OPEN
CN6101
BS_VIDEO
GND
BIT_IN
GND
DET_IN
GND
BIT_OUT
GND
PS_SECAM[H]/GND
RCE[L]/DET_OUT[W]
SW12V/GND
SW12V/AFC_IN
S-P[H]/GND
GND/DET_OUT[M-N]
GND
GND/BS_AUDIO[R]
EE[L]/GND
NC/BS_AUDIO[L]
TO FMA (Page 4-9)
BS_AUDIO[L]
BS_AUDIO[R]
GND
CN1901
GR_VIDEO
GND
TU_VIDEO
GND
I2C_DATA2
I2C_CLK2
GR_ON[H]/CNR_CTL
SW12V
AL6V
TO SYSCON (Page 4-12)
GR_ON[H]/CNR_CTL
I2C_CLK2
I2C_DATA2
BS_ANT/AFC
ANT_CTL[H]
BIT_IN[H]
P50_I/O
BS_PCTL[H]
JLIP[L]
RXD
TXD
AL5V
RMO
R.PAUSE/COMPU_IN
GND
JLIP_IN
JLIP_OUT
NC
CN6103
I2C_CLK2
I2C_DATA2
BS_ANT/AFC
ANT_CTL[H]
BIT_IN[H]
GND
SW12V
AL6V
AL17V
BS_PCTL[H]
C6101 OPEN
IC3961 TC700241FU
VCC
GND
B3961 OPEN
D3965 RB721Q-40
R3954 OPEN
C3961 0.1
IC3962 TC700241FU
D3961 OPEN
B3962 OPEN
R3961 4.7k
D3962 OPEN
D3964 OPEN
L7201 OPEN
D3963 OPEN
Q7201 OPEN
R7202 OPEN
C7202 OPEN
R7203 OPEN
R7204 OPEN
TO TERMINAL(MAIN) (Page 4-20)
LANC_VCC
LANC_I/O
R.PAUSE/COMPU/RAE
J3911
C3911 OPEN
95 LANC/C.BOX
J3952 LANC
J7201 C.BOX/DSS
R7211 100
CN7201
CN7202
CN7502
CN3951
91 JLIP
J3951 JLIP
B3951 OPEN
OPEN
1
2
3
4
5
A
B
C
D
E
F
G
H

4.9 TERMINAL(MAIN) SCHEMATIC DIAGRAM



03 MAIN
[TERMINAL]
OPEN
J7506
REAR_S1_OUT
REAR_S2_OUT
REAR_S1_IN
J7505 OPEN
REAR_S2_IN
R7513 OPEN
R7514 OPEN
C7505 OPEN
R7516 OPEN
R7515 OPEN
C7506 OPEN
R7506 75
R7507 75
R7509 OPEN
R7511 OPEN
R7517 OPEN
R7518 OPEN
C7507 0.01
C7508 OPEN
C7511 470 /6.3
R7519 390
R7521 390
B7501 OPEN
R7520 100
B7502 OPEN
R7522 100
L7501 SHORT
C7509 OPEN
C7510 OPEN
Q7501 OPEN
Q7502 OPEN
L7502 OPEN
C7512 OPEN
C7513 OPEN
C7514 OPEN
R7523 OPEN
R7524 OPEN
R7525 OPEN
Q7503 OPEN
C7515 OPEN
R7526 OPEN
Q7504 OPEN
R7527 OPEN
R7528 OPEN
Q7505 OPEN
R7529 OPEN
REAR_1_IN
J7501
V. IN
A. IN[L]
A. IN[R]
C7501 OPEN
C7502 OPEN
R7503 100
R7504 100
R7501 0Ω
R7502 75
C7503 OPEN
C7504 OPEN
REAR_2_IN
J7502
V. IN
A. IN[L]
A. IN[R]
R7531 OPEN
R7534 OPEN
C7519 OPEN
C7517 OPEN
R7532 OPEN
R7533 OPEN
C7518 OPEN
C7520 OPEN
REAR_1_OUT
J7503
V. OUT
A. OUT[L]
A. OUT[R]
R7537 75
R7538 220
R7535 220
C7522 OPEN
C7523 OPEN
C7524 OPEN
REAR_2_OUT
J7504
V. OUT
A. OUT[L]
A. OUT[R]
C7521 OPEN
R7536 OPEN
L7503 0Ω SHORT
C7527 470/6.3
C7528 OPEN
B7506
B7503 OPEN
C7525 47/16
C7526 0.01
R7541 390 1/2W
R7542 100
Q7507 OPEN
C7529 OPEN
IC7501 OPEN
GND VCC NC
NC
C7531 OPEN
C7530 OPEN
B7504 0Ω
B7505 0Ω
C7516 OPEN
B7515 OPEN
TO TERMINAL CN7101 (Page 4-35) CN7501
SW12V
TU_VIDEO
CH+12V
LINE_VIDEO
GND
VIDEO_OSD_OUT
SCR[H]
V_TO_MAIN
EE[L]
TO TERMINAL CN7102 (Page 4-35) CN7502
P50_I/O
PERI1S/FRONT_YC[H]
I2C_CLK2
I2C_DATA2
GND
LANC_I/O
LANC_VCC
GND
TXD/F.AUDIO[L]
RXD/F.AUDIO[R]
TO TERMINAL CN7103 (Page 4-35) CN7503
R.PAUSE/COMPU_IN
A.IN1[L]
A.IN1[R]
LINE_OUT[L]
LINE_OUT[R]
A.IN2[L]
A.IN2[R]
DEC_OUT[L]
DEC_OUT[R]/LI_5V
GND
B7511 OPEN
B7512 OPEN
B7514 OPEN
B7513 OPEN
TO VIDEO/N.AUDIO (Page 4-6)
R_Y2_IN
R_C2_IN
R_Y1_IN
R_C1_IN
C_OUT
Y_OUT
BIAS_FOR_C_OUT
SW12
R7530 75
CN7504
GND
GND
FRONT_VIDEO
GND
F. AUDIO[R]
GND
F. AUDIO[L]
OPEN
TO JACK CN7191 (Page 4-44)
TO SW/DISP CN7191 (Page 4-48)
CN7505
GND
GND
OPEN
TO SW.REG (Page 4-14)
GND
SW12V
CH+12V
TO VIDEO/N.AUDIO (Page 4-5,4-6)
VIDEO_OSD_OUT
PAL_NTSC[L]
FRONT[L]
R_V1_IN
F_V_IN
GND
TUNER_VIDEO
LINE_V_IN
LI_5V
THROUGH[H]
P50_I/O
PERI1S
I2C_CLK2
I2C_DATA2
SCR[H]
LANC_I/O
LANC_VCC
EE[L]
TXD
RXD
R.PAUSE/COMPU_IN
TO SYSCON (Page 4-11,4-12)
TO C.BOX CTL (Page 4-18)
TO SYSCON (Page 4-12)
TO FMA (Page 4-9)
A.IN1[L]
A.IN1[R]
LINE_OUT[L]
LINE_OUT[R]
A.IN2[L]
A.IN2[R]
DEC_OUT[L]
DEC_OUT[R]
F.AUDIO[R]
F.AUDIO[L]
GND
5
4
3
2
1
A
B
C
D
E
F
G
H

4.10 VSC SCHEMATIC DIAGRAM

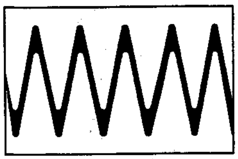


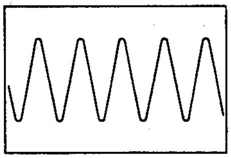
03 MAIN (VSC)
TO VIDEO/N.AUDIO (Page 4-5)
SW5V
PB_AUDIO
GND
VSC_AUDIO
GND
VSC_EXP1
VSC_CLK
VSC_DATA
C2520 0.01
C2521 OPEN
LC2501
L2501 2.2μ
LPF2501
R2501 2.2k
WF1
3 IN
4
2
1 GND
OUT 6
C2502 0.0056
C2517 OPEN
B2501 0Ω
R2519 1k
R2512 1k
R2513 1k
R2521 4.7k
R2502 4.7k
C2505 100 /6.3
C2506 0.01
R2503 100k
R2514 4.7k
C2515 OPEN
C2503 1/50
R2504 4.7k
R2505 1M
R2515 0
Q2501 2SD1819A/QRS
R2506 47k
C2504 OPEN
C2507 22/6.3
R2507 1k
R2520 100
Q2502 UN521E
C2501 100 /6.3
C2508 0.01
D2501 1SS355
R2508 33k
C2509 10/6.3
R2511 150k
C2512 330p
R2510 100k
C2511 0.0022
R2509 10k
C2510 47/16
WF2
IC2501 LC85405JE
48 VOUT2
47 VINB2
46 VIN2
45 VREF
44 VSSA
43 DAOUT
42 M
41 VSS
40 NC4
39 FS0
38 FS1
37 M8
36 M9
35 DSP
34 SDATA
33 SCLK
49 VIN1
50 VINB1
51 VOUT1
52 ADIN
53 VDDA
54 ALC
55 NC3
56 NC2
57 NC1
58 RESB
59 VDD
60 EXP2
61 EXP1
62 NCO
63 TST1
64 TST2
NC5 32
EX7 31
EX6 30
EX5 29
EX4 28
EX3 27
EX2 26
EX1 25
VDD 24
TST2 23
TST3 22
NC6 21
fh 20
C 19
VDDA 18
VSSA 17
1 PM7
2 PM6
3 PM5
4 PM4
5 PM3
6 PM2
7 PM1
8 PM0
9 VSS
10 XIN
11 XOUT
12 STA1
13 STA0
14 SA
15 SW
16 PAUSE
C2513 0.01
C2518 0.001
C2519 0.01
R2522 6.8k
CF2501
5
4
3
2
1
A
B
C
D
E
F
G
H

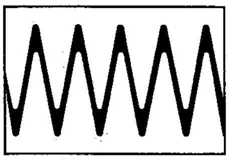
NOTE : For VSC waveforms, please refer to page 4-23.

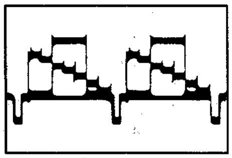
WAVEFORMS

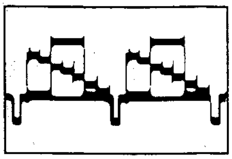
— VIDEO/N.AUDIO —

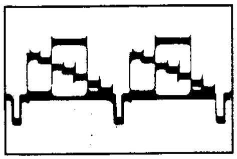
WF1 IC1-4

REC 0.8 Vp-p
20 mV/0.5 msec/DIV

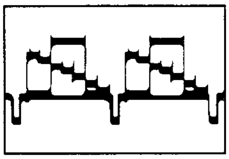
WF2 IC1-9

REC 0.1 Vp-p
2 mV/0.5 msec/DIV

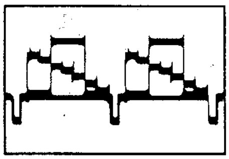
WF3 IC1-11

PB 0.48 Vp-p
10 mV/0.5 msec/DIV

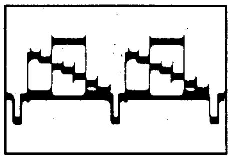
WF4-1 IC1-19

REC 0.51 Vp-p
20 mV/20 µsec/DIV

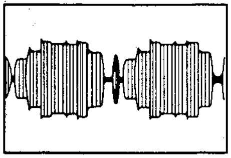
WF4-2 IC1-19

PB 0.55 Vp-p
20 mV/20 µsec/DIV

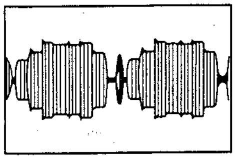
WF5-1 IC1-23

REC 0.48 Vp-p
20 mV/20 µsec/DIV

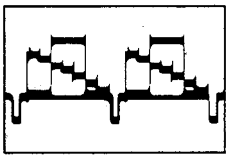
WF5-2 IC1-23

PB 0.52 Vp-p
20 mV/20 µsec/DIV

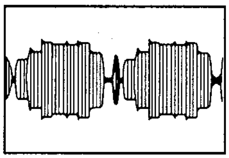
WF6-1 IC1-42

REC 0.4 Vp-p
10 mV/20 µsec/DIV

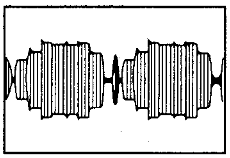
WF6-2 IC1-42

PB 0.43 Vp-p
10 mV/20 µsec/DIV

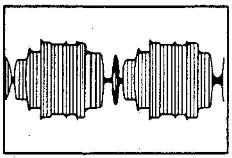
WF7-1 IC1-46

REC 0.24 Vp-p
10 mV/20 µsec/DIV

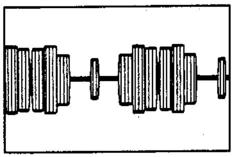
WF7-2 IC1-46

PB 0.3 Vp-p
10 mV/20 µsec/DIV

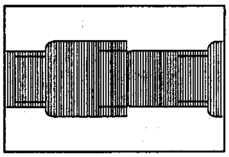
WF8 IC1-52

PB 2.2 Vp-p
50 mVV/20 µsec/DIV

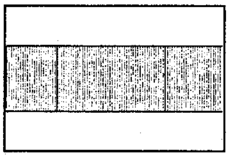
WF9 IC1-55

PB 0.6 Vp-p
20 mV/20 µsec/DIV

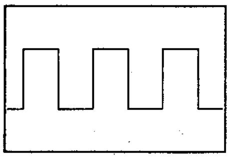
WF10-1 IC1-58

REC 0.4 Vp-p
10 mV/20 µsec/DIV

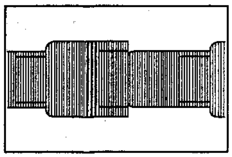
WF10-2 IC1-58

PB 0.48 Vp-p
10 mV/20 µsec/DIV

WF11-1 IC1-78

REC 0.62 Vp-p
20 mV/20 µsec/DIV

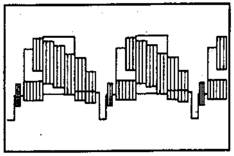
WF11-2 IC1-78

PB 0.22 Vp-p
10 mV/5 msec/DIV

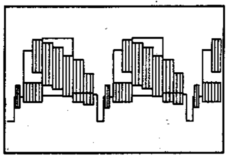
WF12 IC1-87

REC 1.6 Vp-p
50 mV/1 msec/DIV

WF13 TP111 D.FF

REC/PB 5.2 Vp-p
0.2 V/10 msec/DIV

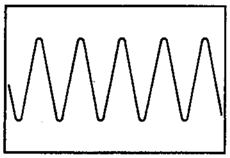
WF14 TP106 V.PB FM

PB 0.32 Vp-p
10 mV/5 msec/DIV

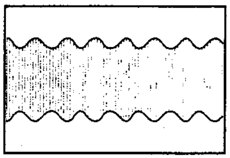
— ON SCREEN —

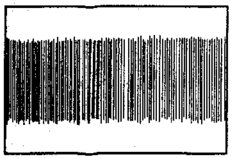
WF1 IC201-21 CV_IN

REC/PB 2.2 Vp-p
50 mV/20 µsec/DIV

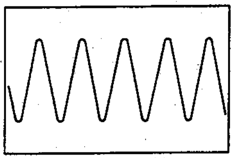
WF2 IC201-19 CVOUT

REC/PB 2.2 Vp-p
50 mV/20 µsec/DIV

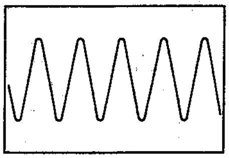
— FMA —

WF1 IC2201-9

REC 0.11 Vp-p
2 mV/0.5 msec/DIV

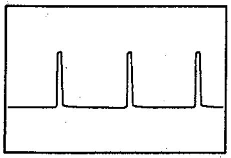
WF2 IC2201-21

REC 0.48 Vp-p
10 mV/1 msec/DIV

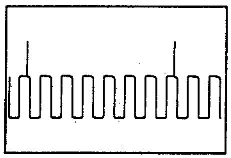
WF3 IC2201-30

PB 0.56 Vp-p
20 mV/5 msec/DIV

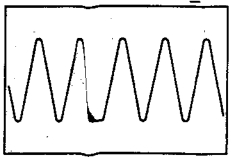
WF4 IC2201-53

REC/PB 1.2 Vp-p
20 mV/0.5 msec/DIV

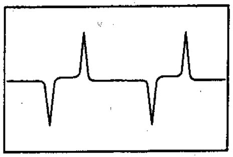
WF5 IC2201-61

REC 0.12 Vp-p
2 mV/0.5 msec/DIV

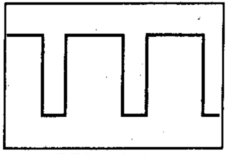
— SYSCON —

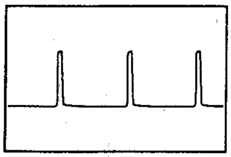
WF1 CN3001-4 D.PG

REC/PB 4.8 Vp-p
0.2 V/10 msec/DIV

WF2 CN3001-5 D.FG

REC/PB 4.5 Vp-p
0.1 V/5 msec/DIV

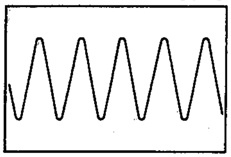
WF3 CN3003-2 CAP_FG

REC/PB 2.2 Vp-p
50 mV/0.5 msec/DIV

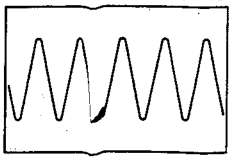
WF4 TP4001 CTL P

PB 2.5 Vp-p
50 mV/10 msec/DIV

WF5 IC3001-1 CTL(+)

REC 4.0 Vp-p
0.1 V/10 msec/DIV

WF6 IC3001-98 C.SYNC

REC/PB 4.1 Vp-p
0.1 V/20 µsec/DIV

— VSC —

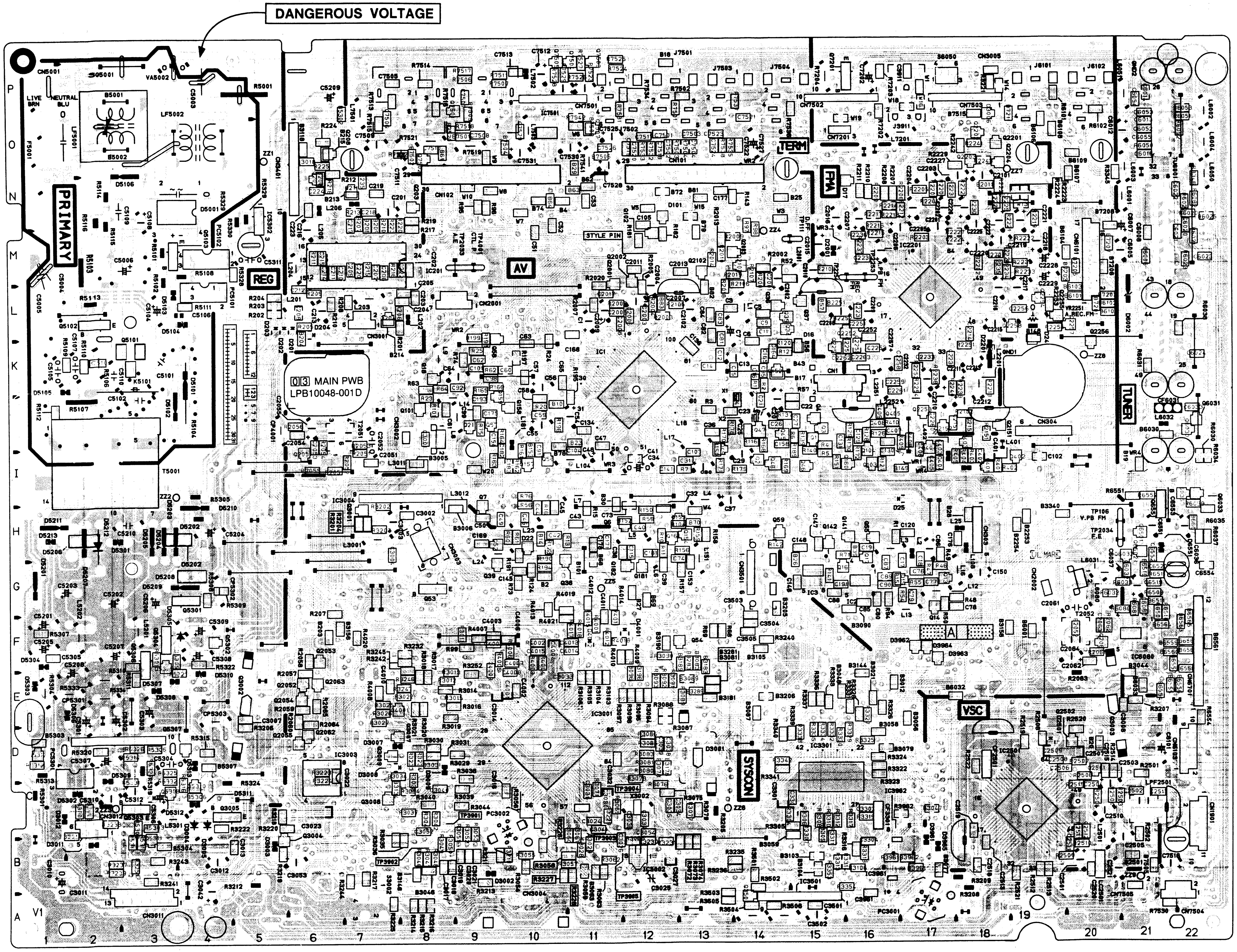
WF1 LPF2501-3

PB 0.4 Vp-p
10 mV/0.5 msec/DIV

WF2 IC2501-48

PB 0.7 Vp-p
20 mV/0.5 msec/DIV

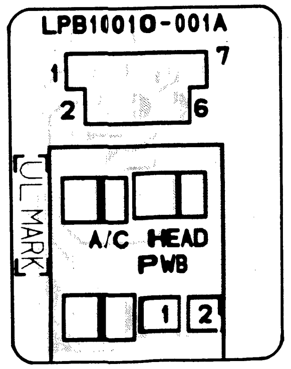
COMPONENT PARTS LOCATION GUIDE <MAIN>

REF.NO.	LOCATION		
CAPACITOR			
C1	A	D	11L
C3	B	C	13L
C5	B	C	14L
C6	B	C	14K
C7	A	D	13L
C9	B	C	14L
C11	B	C	14L
C12	B	C	13K
C13	A	D	13K
C14	B	C	13K
C15	B	C	13K
C16	B	C	14K
C17	B	C	17G
C18	B	C	17G
C19	B	C	16H
C20	A	D	14J
C21	B	C	14J
C22	B	C	15J
C23	B	C	13J
C24	B	C	14J
C25	B	C	14J
C26	B	C	14J
C27	B	C	15J
C29	A	D	14I
C30	A	D	13I
C31	B	C	13I
C32	B	C	12H
C34	A	D	12I
C36	B	C	13J
C37	A	D	13I
C38	B	C	11H
C39	B	C	12G
C40	B	C	12H
C41	B	C	12I
C42	B	C	10H
C43	B	C	11H
C44	B	C	10H
C45	B	C	10H
C46	B	C	10H
C47	B	C	11J
C48	A	D	11I
C49	B	C	9H
C50	B	C	9H
C51	B	C	10M
C52	B	C	10N
C53	B	C	11N
C54	A	D	11J
C55	A	D	10J
C56	A	D	10K
C57	B	C	10K
C58	B	C	10J
C59	B	C	10J
C60	B	C	9K
C61	B	C	8J
C62	B	C	9K
C63	B	C	10K
C64	A	D	8K
C65	B	C	10K
C73	B	C	12H
C74	B	C	12G
C76	B	C	17G
C77	B	C	17G
C78	B	C	18G
C79	B	C	17G
C80	B	C	16G
C81	B	C	13K
C82	B	C	13L
C83	B	C	13L
C84	B	C	13L
C85	B	C	16G
C86	A	D	17H
C87	B	C	16G
C88	B	C	15G
C89	B	C	16G
C90	B	C	16G
C91	B	C	10I
C92	B	C	9K
C95	B	C	14K
C98	B	C	9K
C99	B	C	9J
C101	B	C	9K
C102	B	C	19I
C104	B	C	11I
C105	B	C	12N
C107	B	C	13I
C115	B	C	12H
C120	B	C	17H
C129	B	C	16J
C130	B	C	16I
C131	B	C	15J
C134	B	C	11J
C136	B	C	13K
C141	B	C	12I
C145	B	C	10G
C146	B	C	15G
C147	B	C	15H
C148	B	C	15H
C150	A	D	18G
C153	B	C	13G
C154	B	C	9J
C158	B	C	14J
C164	B	C	14K
C165	B	C	14K
C168	B	C	11L
C169	B	C	9H
C171	B	C	11H
C175	B	C	9J
C176	B	C	18H
C177	B	C	13N
C178	B	C	11H
C181	B	C	12H
C182	B	C	9I
C183	B	C	9I
C191	B	C	15G
C193	B	C	9J
C201	A	D	7N
C202	B	C	8M
C203	B	C	8L
C204	B	C	8L
C205	B	C	8L
C206	B	C	7M
C207	B	C	7M
C208	B	C	6L
C209	B	C	7M
C210	B	C	6M
C211	B	C	6M
C212	B	C	6L
C213	A	D	6L
C214	B	C	6M
C215	B	C	6M
C216	A	D	6M
C217	B	C	7N
C218	B	C	7N
C219	B	C	7N
C220	B	C	7M
C222	B	C	8M
C223	B	C	6N
C224	B	C	6N
C401	B	C	18I
C402	B	C	18I
C403	B	C	17I
C404	B	C	17I
C405	B	C	17I
C406	B	C	17I
C407	B	C	16J
C408	B	C	16J
C409	B	C	16J
C2001	B	C	14M
C2002	A	D	14L
C2003	B	C	12L
C2004	A	D	12L
C2005	B	C	11L
C2006	B	C	12L
C2007	A	D	12L
C2008	B	C	11L
C2009	A	D	11L
C2010	A	D	15M
C2011	B	C	12M
C2013	B	C	13M
C2015	A	D	15M
C2016	A	D	15N
C2017	B	C	11L
C2051	B	C	7I
C2052	A	D	7I
C2053	B	C	6J
C2054	B	C	6J
C2055	A	D	6J
C2061	A	D	20G
C2062	B	C	20F
C2063	B	C	20F
C2064	A	D	20F
C2101	A	D	18N
C2102	A	D	13L
C2151	B	C	17J
C2152	B	C	18J
C2201	A	D	17M
C2202	A	D	17N
C2203	A	D	17N
C2204	A	D	17N
C2205	A	D	16M
C2206	A	D	16M
C2207	A	D	16N
C2208	A	D	16L
C2209	A	D	16L
C2210	A	D	17J
C2211	A	D	18K
C2212	A	D	18J
C2213	A	D	18K
C2214	B	C	18L
C2215	A	D	18L
C2216	A	D	18L
C2217	A	D	19L
C2218	A	D	19M
C2219	A	D	18M
C2220	A	D	18M
C2221	A	D	19N
C2222	A	D	18N
C2223	B	C	18N
C2224	B	C	17M
C2225	A	D	18N
C2226	A	D	18N
C2227	A	D	18N
C2228	A	D	19M
C2229	A	D	19M
C2230	B	C	16M
C2231	B	C	16L
C2232	A	D	17K
C2233	B	C	17K
C2234	B	C	17K
C2251	B	C	16L
C2252	B	C	16K
C2253	B	C	16K
C2254	B	C	16K
C2255	B	C	16K
C2256	B	C	19L
C2257	A	D	16K
C2258	B	C	16K
C2259	B	C	16K
C2260	B	C	17J
C2261	B	C	16K
C2262	B	C	15K
C2263	B	C	16K
C2501	A	D	20B
C2502	B	C	21C
C2503	A	D	20C
C2504	B	C	20C
C2505	A	D	20B
C2506	B	C	19D
C2507	B	C	20D
C2508	B	C	19D
C2509	B	C	19D
C2510	A	D	20C
C2511	B	C	20B
C2512	B	C	20B
C2513	B	C	18B
C2515	B	C	20D
C2517	B	C	21C
C2518	B	C	18B
C2519	B	C	18C
C2520	B	C	20B
C2521	A	D	20B
C3001	B	C	8J
C3002	B	C	8H
C3003	A	D	7H
C3004	B	C	7H
C3007	B	C	5E
C3008	B	C	21E
C3010	A	D	1B
C3011	A	D	1B
C3012	A	D	4B
C3013	B	C	5B
C3014	B	C	9E
C3016	B	C	9C
C3017	B	C	8B
C3018	B	C	8B
C3019	B	C	9B
C3020	B	C	9B
C3021	B	C	9B
C3022	B	C	6D
C3023	B	C	6C
C3024	B	C	11C
C3025	A	D	12B
C3026	B	C	11B
C3027	B	C	12B
C3028	B	C	11B
C3029	B	C	11B
C3030	B	C	11C
C3031	B	C	11C
C3032	B	C	11D
C3033	B	C	10E
C3034	B	C	12C
C3035	B	C	12C
C3036	B	C	12C
C3037	B	C	12C
C3038	B	C	12D
C3039	B	C	12D
C3040	B	C	8C
C3041	B	C	11C
C3042	A	D	4A
C3052	B	C	8C
C3053	A	D	6B
C3054	B	C	12C
C3301	B	C	14C
C3302	B	C	15C
C3303	B	C	16C
C3304	B	C	16B
C3501	B	C	15A
C3502	A	D	15A
C3503	B	C	14F
C3504	B	C	14F
C3505	B	C	14F
C3911	B	C	17P
C3961	B	C	16A
C4001	B	C	9E
C4002	B	C	10E
C4003	B	C	9F
C4004	B	C	10F
C4005	B	C	9F
C4006	B	C	9F
C4007	B	C	10F
C4008	B	C	9E
C4009	B	C	9E
C4010	B	C	7E
C4011	B	C	11F
C4012	B	C	11G
C4013	B	C	11F
C4014	B	C	11F
C4015	B	C	10F
C5001	A	D	2O
C5002	A	D	3N
C5003	A	D	4P
C5004	A	D	1M
C5005	A	D	1L
C5006	A	D	3M
C5101	A	D	3K
C5102	A	D	3J
C5103	B	C	2K
C5104	A	D	3L
C5105	A	D	1K
C5106	A	D	4L
C5107	A	D	2K
C5108	A	D	3N
C5109	A	D	2N
C5110	A	D	2K
C5201	A	D	1F
C5202	A	D	2G
C5203	A	D	1G
C5204	A	D	4H
C5205	A	D	1F
C5206	A	D	3G
C5207	A	D	3F
C5208	A	D	1E
C5209	A	D	6P
C5210	A	D	3H
C5301	A	D	2D
C5302	A	D	2D
C5303	A	D	3E
C5304	A	D	4D
C5305	B	C	1F
C5306	A	D	3C
C5307	A	D	2D
C5308	A	D	4F
C5309	A	D	4F
C5310	A	D	2C
C5311	A	D	5M
C5312	A	D	3C
C6005	A	D	20M
C6006	B	C	21M
C6007	A	D	21M
C6008	B	C	21M
C6012	A	D	21O
C6013	B	C	21O
C6014	B	C	21P
C6016	B	C	21O
C6020	B	C	22M
C6021	B	C	22M
C6022	B	C	21N
C6023	B	C	22M
C6024	B	C	22K
C6032	B	C	21G
C6033	B	C	22J
C6036	B	C	22H
C6037	A	D	21G
C6052	B	C	21O
C6053	B	C	21P
C6054	B	C	21P
C6055	B	C	21O
C6080	B	C	21G
C6101	A	D	21D
C6519	B	C	21G
C6520	B	C	21G
C6551	A	D	21H
C6552	B	C	21H
C6553	A	D	22H
C6554	B	C	22G
C7202	A	D	16P
C7501	B	C	12O
C7502	B	C	12O
C7503	B	C	13O
C7504	B	C	13O
C7505	B	C	7P
C7506	B	C	7O
C7507	B	C	9P
C7508	B	C	9O
C7509	A	D	7O
C7510	B	C	8O
C7511	A	D	8O
C7512	A	D	10P
C7513	B	C	10P
C7514	A	D	11P
C7515	A	D	11P
C7516	A	D	21B
C7517	B	C	12O
C7518	B	C	12O
C7519	B	C	12O
C7520	B	C	12O
C7521	B	C	14O
C7522	B	C	14O
C7523	B	C	13O
C7524	B	C	13O
C7525	A	D	11O
C7526	B	C	11O
C7527	A	D	14O
C7528	A	D	11O
C7529	B	C	10O
C7530	A	D	11O
C7531	A	D	10O
CONNECTOR			
CN1	A	D	15K
CN101	A	D	14O
CN102	A	D	10O
CN303	A	D	18H
CN304	A	D	20J
CN1901	A	D	22C
CN2001	A	D	9L
CN2002	A	D	20G
CN3001	A	D	7L
CN3002	A	D	8J
CN3003	A	D	8H
CN3004	A	D	10A
CN3005	A	D	18P
CN3011	A	D	3A
CN3012	A	D	2C
CN3401	A	D	6O
CN3501	A	D	14H
CN5001	A	D	1P
CN6101	A	D	20L
CN6103	A	D	22D
CN6701	A	D	22E
CN7201	A	D	15O
CN7501	A	D	11P
CN7502	A	D	16P
CN7503	A	D	18P
CN7504	A	D	22A
CN7505	A	D	21B
DIODE			
D16	B	C	15K
D17	B	C	16N
D22	B	C	10H
D24	B	C	19K
D25	B	C	16I
D101	B	C	12N
D201	B	C	6L
D202	B	C	5L
D203	B	C	5L
D204	B	C	6L
D2001	A	D	15M
D2201	A	D	18K
D2501	B	C	19D
D3001	A	D	13D
D3002	A	D	9B
D3003	A	D	5B
D3004	A	D	4C
D3005	A	D	4C
D3006	B	C	18P
D3007	A	D	8D
D3008	B	C	7D
D3009	A	D	8D
D3011	A	D	2B
D3012	A	D	1C
D3961	A	D	17C
D3962	B	C	17F
D3963	B	C	17F
D3964	B	C	17F
D3965	A	D	17B
D4001	B	C	12F
D4002	B	C	11F
D5001	B	C	3N
D5101	A	D	4J
D5102	A	D	3K
D5103	A	D	3L
D5104	A	D	3L
D5105	A	D	2K
D5106	A	D	3N
D5201	A	D	1G
D5202	A	D	4H
D5203	A	D	3H
D5204	A	D	3H
D5205	A	D	3H
D5206	A	D	2H
D5207	A	D	2H
D5208	A	D	4G
D5209	A	D	4G
D5210	A	D	3H
D5211	A	D	1H
D5212	A	D	2H
D5213	A	D	1H
D5301	A	D	2H
D5302	A	D	2C
D5303	A	D	1E
D5304	A	D	1F
D5305	A	D	4F
D5306	A	D	2E
D5307	A	D	3E
D5308	A	D	3E
D5309	A	D	2D
D5310	A	D	4E
D5311	A	D	4C
D5312	B	C	3C
D5313	A	D	4D
D6002	A	D	21M
D6551	A	D	21G
IC			
IC1	B	C	12K
IC2	B	C	16G
IC3	B	C	15G
IC201	A	D	8L
IC2201	B	C	17L
IC2501	B	C	19C
IC3001	B	C	10D
IC3002	B	C	12B
IC3003	A	D	6C
IC3004	A	D	8I
IC3301	B	C	15D
IC3501	A	D	15A
IC3961	B	C	16B
IC3962	B	C	16B
IC5301	A	D	2D
IC5302	A	D	5N
IC6080	B	C	21F
IC7501	B	C	10O
JACK			
J3911	A	D	17P
J6101	A	D	19P
J6102	A	D	20P
J7501	A	D	12P
J7502	A	D	11P
J7503	A	D	13P
J7504	A	D	14P
J7505	A	D	8P
J7506	A	D	9P
COIL			
L1	A	D	14L
L2	A	D	17G
L3	A	D	16H
L4	A	D	13I
L5	A	D	12H
L6	A	D	12G
L7	A	D	11I
L8	A	D	9J
L9	A	D	8K
L12	A	D	17G
L13	A	D	17G
L14	A	D	9J
L16	A	D	18G
L17	A	D	13J
L18	A	D	13J
L23	A	D	10H
L24	A	D	9H
L25	A	D	18H
L104	A	D	11I
L108	A	D	18G
L151	A	D	13G
L181	A	D	10I
L201	A	D	6L
L202	A	D	8L
L203	A	D	7L
L204	A	D	6M
L205	A	D	6N
L206	A	D	7N
L401	A	D	18I
L402	A	D	17I
L2001	A	D	15L
L2201	A	D	18K
L2251	A	D	16K
L2252	A	D	17J
L2501	A	D	20C
L3001	A	D	7H
L3011	B	C	8I
L3012	B	C	8H
L3501	A	D	14A
L5201	A	D	3F
L5202	A	D	2F
L5301	A	D	4C
L6001	A	D	21N
L6002	A	D	22P
L6003	A	D	21O
L6004	A	D	22O
L6031	A	D	20G
L6032	A	D	21J
L6050	A	D	22O
L6051	A	D	21P
L6080	A	D	20G
L7201	A	D	16O
L7501	A	D	7P
L7502	A	D	10P
L7503	A	D	10O
TRANSISTOR			
Q1	B	C	15J
Q2	B	C	14I
Q3	B	C	15J
Q4	B	C	15J
Q6	B	C	12H
Q7	B	C	9H
Q13	B	C	17G
Q14	B	C	17G
Q15	B	C	17G
Q16	B	C	15G
Q17	B	C	16G
Q18	B	C	8K
Q21	B	C	9J
Q34	B	C	14L
Q35	B	C	14L
Q36	B	C	14L
Q37	B	C	15L
Q38	B	C	10G
Q39	B	C	9G
Q45	B	C	14J
Q46	B	C	15I
Q47	B	C	14J
Q48	B	C	14I
Q49	B	C	13I
Q52	B	C	9H
Q53	A	D	8G
Q54	B	C	13F
Q55	B	C	16H
Q56	B	C	10I
Q57	B	C	9J
Q58	B	C	9K
Q59	B	C	14H
Q101	B	C	8J
Q102	B	C	12M
Q103	B	C	16I
Q104	B	C	16I
Q141	B	C	16H
Q142	B	C	15H
Q152	B	C	14K
Q153	B	C	12H
Q154	B	C	13H
Q157	B	C	10I
Q158	B	C	9J
Q159	B	C	9J
Q160	B	C	16I
Q161	B	C	12H
Q181	B	C	12G
Q182	B	C	12G
Q203	B	C	8N
Q204	B	C	7L
Q207	B	C	6N
Q208	B	C	6O
Q211	B	C	7N
Q401	B	C	18I
Q402	B	C	19I
Q403	B	C	18J
Q404	B	C	17I
Q405	B	C	16J
Q2001	B	C	11L
Q2002	B	C	12M
Q2003	B	C	14M
Q2051	B	C	6I
Q2052	B	C	6E
Q2053	B	C	6F
Q2054	B	C	6E
Q2055	B	C	6D
Q2061	B	C	20F
Q2062	B	C	6D
Q2063	B	C	6E
Q2102	B	C	13M
Q2103	B	C	14M
Q2151	B	C	18J
Q2152	B	C	17J
Q2201	B	C	18O
Q2202	B	C	18O
Q2203	B	C	18O
Q2204	B	C	18O
Q2251	B	C	15K
Q2252	B	C	16L
Q2253	B	C	17J
Q2254	B	C	19L
Q2255	B	C	19L
Q2256	B	C	20K
Q2257	B	C	20L
Q2258	B	C	19L
Q2501	B	C	20D
Q2502	B	C	20D
Q3001	B	C	7H
Q3002	A	D	5E
Q3003	A	D	20E
Q3004	B	C	5B
Q3005	A	D	5C
Q3007	B	C	7D
Q3008	B	C	7C
Q3009	B	C	7D
Q3501	B	C	14A
Q4001	B	C	7E
Q5101	A	D	2K
Q5102	A	D	2L
Q5103	A	D	3M
Q5301	A	D	3G
Q5302	B	C	4F
Q5303	A	D	3C
Q5304	A	D	3F
Q5305	B	C	3F
Q5306	A	D	3F
Q5307	B	C	4D
Q5308	B	C	3C
Q5310	B	C	4C
Q5311	B	C	3B
Q5312	B	C	1D
Q6030	B	C	22J
Q6031	B	C	22J
Q6032	B	C	21G
Q6033	B	C	22I
Q6035	B	C	22I
Q6501	B	C	21H
Q6502	B	C	21H
Q6551	A	D	21H
Q7201	A	D	16P
Q7501	B	C	8P
Q7502	B	C	8O
Q7503	B	C	11P
Q7504	B	C	11P
Q7505	B	C	10P
Q7507	B	C	11O
RESISTOR			
R1	B	C	16H
R2	B	C	14K
R3	B	C	13J
R4	B	C	15J
R5	B	C	15I
R6	B	C	15J
R7	B	C	13I
R10	B	C	12H
R11	B	C	12H
R13	B	C	10H
R15	B	C	11H
R16	B	C	10H
R20	B	C	10J
R23	B	C	8J
R24	B	C	10K
R25	B	C	9K
R46	B	C	17G
R47	B	C	17G
R48	B	C	18G
R49	B	C	17H
R50	B	C	17G
R52	B	C	14M
R54	B	C	17G
R55	B	C	17G
R56	B	C	10H
R57	B	C	15J
R59	B	C	12H
R60	B	C	9H
R61	B	C	10H
R62	B	C	9K
R63	B	C	8K
R64	B	C	8K
R68	B	C	13F
R69	B	C	13F
R71	B	C	15H
R73	B	C	10G
R74	B	C	9K
R75	B	C	9J
R76	B	C	10I
R94	B	C	16G
R95	B	C	9N
R96	B	C	9N
R97	B	C	14N
R98	B	C	14M
R99	B	C	9F
R101	B	C	8J
R112	B	C	14K
R116	B	C	14J
R120	B	C	14K
R121	B	C	14K
R123	B	C	10H
R124	B	C	10G
R126	B	C	16J
R127	B	C	16I
R128	B	C	16J
R129	B	C	16J
R130	B	C	16J
R137	B	C	14J
R139	B	C	15J
R140	B	C	15I
R141	B	C	15G
R142	B	C	14H
R143	B	C	13N
R150	B	C	12H
R151	B	C	15I
R156	B	C	13H
R157	B	C	13G
R158	B	C	13H
R159	B	C	13H
R161	B	C	10I
R162	B	C	10I
R163	B	C	9I
R164	B	C	9J
R165	B	C	9K
R166	B	C	9K
R168	B	C	14J
R169	B	C	14I
R170	B	C	13J
R171	B	C	13I
R172	B	C	16I
R178	B	C	13J
R179	B	C	14I
R181	B	C	12M
R182	B	C	12M
R189	B	C	15I
R190	B	C	10G
R191	B	C	10H
R194	B	C	10G
R195	B	C	11J
R196	B	C	10J
R197	B	C	10K
R198	B	C	9K
R199	B	C	9L
R201	B	C	7L
R202	B	C	5L
R203	B	C	5L
R204	B	C	5L
R205	B	C	6L
R206	B	C	7L
R207	B	C	6G
R208	B	C	7L
R209	B	C	6L
R210	B	C	6L
R211	B	C	6M
R212	B	C	6N
R213	B	C	7N
R215	B	C	7M
R216	B	C	7M
R217	B	C	8M
R218	B	C	6N
R219	B	C	8N
R220	B	C	7N
R223	B	C	7N
R224	B	C	6O
R225	B	C	6O
R235	B	C	7N
R401	B	C	18I
R402	B	C	18I
R403	B	C	18I
R404	B	C	18I
R405	B	C	17I
R408	B	C	17J
R409	B	C	17J
R410	B	C	16J
R2001	B	C	14M
R2002	B	C	14M
R2003	B	C	12L
R2004	B	C	12L
R2005	B	C	12L
R2006	B	C	11L
R2007	B	C	11L
R2009	B	C	13M
R2010	B	C	13M
R2013	B	C	13M
R2014	B	C	13M
R2018	B	C	13L
R2019	B	C	13M
R2020	B	C	11L
R2051	B	C	7I
R2052	B	C	7I
R2053	B	C	7J
R2054	B	C	6J
R2055	B	C	6I
R2056	B	C	6J
R2057	B	C	6E
R2058	B	C	6F
R2059	B	C	6E
R2060	B	C	6E
R2061	B	C	20F
R2062	B	C	20F
R2063	A	D	20E
R2064	B	C	6E
R2065	B	C	6E
R2105	B	C	12L
R2106	B	C	14L
R2107	B	C	14M
R2108	B	C	15M
R2151	B	C	18J
R2152	B	C	18J
R2201	B	C	17N
R2202	B	C	17N
R2203	B	C	17M
R2204	B	C	17N
R2205	B	C	17N
R2206	B	C	17N
R2207	B	C	16N
R2208	B	C	16N
R2209	B	C	16N
R2210	B	C	16N
R2211	B	C	16N
R2212	B	C	17N
R2213	B	C	16N
R2214	B	C	16N
R2215	B	C	16M
R2216	B	C	16N
R2217	B	C	16N
R2218	B	C	18K
R2219	B	C	19N
R2220	B	C	18M
R2221	B	C	18N
R2222	B	C	19M
R2223	B	C	19N
R2224	B	C	19N
R2225	B	C	18N
R2226	B	C	18N
R2227	B	C	17M
R2228	B	C	18N
R2229	B	C	18O
R2230	B	C	18N
R2231	B	C	17N
R2232	B	C	19M
R2233	B	C	19M
R2234	B	C	18M
R2235	B	C	18M
R2236	B	C	16M
R2237	B	C	16M
R2238	B	C	17K
R2239	B	C	18K
R2240	B	C	17K
R2241	B	C	18O
R2242	B	C	18O
R2243	B	C	18O
R2244	B	C	18K
R2251	B	C	18K
R2252	B	C	17K
R2253	B	C	19L
R2254	B	C	17K
R2255	B	C	19L
R2501	B	C	21D
R2502	B	C	21B
R2503	B	C	20C
R2504	B	C	20C
R2505	B	C	20C
R2506	B	C	20C
R2507	B	C	20D
R2508	B	C	19D
R2509	B	C	19B
R2510	B	C	20B
R2511	B	C	20B
R2512	B	C	19B
R2513	B	C	19B
R2514	B	C	20D
R2515	B	C	20C
R2519	B	C	19D
R2520	B	C	20D
R2521	B	C	19B
R2522	B	C	18D
R3011	B	C	9F
R3012	B	C	8E
R3013	B	C	8E
R3014	B	C	8E
R3015	B	C	8E
R3016	B	C	8E
R3017	B	C	8E
R3018	B	C	8E
R3019	B	C	8E
R3020	B	C	8E
R3021	B	C	8E
R3022	B	C	8E
R3025	B	C	7E
R3026	B	C	7E
R3027	B	C	7E
R3029	B	C	9D
R3030	B	C	8D
R3031	B	C	8D
R3033	B	C	8C
R3034	B	C	8C
R3035	B	C	7B
R3036	B	C	8B
R3037	B	C	8C
R3038	B	C	9D
R3039	B	C	9C
R3040	B	C	8C
R3041	B	C	8C
R3042	B	C	8C
R3044	B	C	9C
R3046	B	C	8B
R3047	B	C	8B
R3048	B	C	8B
R3049	B	C	8B
R3050	B	C	8B
R3051	B	C	9C
R3052	B	C	9C
R3053	B	C	9C
R3054	B	C	10B
R3055	B	C	10B
R3056	B	C	10C
R3057	B	C	11B
R3058	B	C	11B
R3059	B	C	11B
R3060	B	C	11B
R3061	B	C	11B
R3062	B	C	11B
R3063	B	C	11B
R3066	B	C	12B
R3069	B	C	11C
R3071	B	C	11C
R3072	B	C	13B
R3073	B	C	13B
R3074	B	C	13B
R3075	B	C	12C
R3076	B	C	12C
R3077	B	C	13C
R3078	B	C	12C
R3079	B	C	13C
R3080	B	C	12D
R3081	B	C	12D
R3083	B	C	12D
R3085	B	C	12D
R3086	B	C	12D
R3087	B	C	12E
R3088	B	C	12E
R3089	B	C	13E
R3090	B	C	12F
R3091	B	C	12E
R3092	B	C	12E
R3093	B	C	12E
R3094	B	C	12E
R3095	B	C	12E
R3096	B	C	12E
R3097	B	C	11E
R3103	B	C	11E
R3104	B	C	11E
R3105	B	C	11E
R3106	B	C	11E
R3201	B	C	7H
R3202	B	C	7H
R3203	B	C	7H
R3204	B	C	7H
R3205	A	D	13C
R3206	B	C	5D
R3207	B	C	21E
R3208	A	D	18A
R3209	A	D	18B
R3210	B	C	9B
R3211	B	C	9B
R3212	A	D	5B
R3213	B	C	9B
R3214	B	C	8A
R3215	B	C	8A
R3216	B	C	8A
R3217	B	C	7B
R3218	B	C	5C
R3219	B	C	5B
R3220	B	C	5C
R3221	B	C	18P
R3222	B	C	4C
R3223	B	C	6D
R3224	B	C	6C
R3225	B	C	7A
R3226	B	C	10B
R3227	B	C	10B
R3228	B	C	11B
R3229	B	C	11C
R3230	B	C	12B
R3231	B	C	12B
R3232	B	C	8F
R3233	B	C	8D
R3234	B	C	8D
R3235	B	C	14B
R3236	B	C	14B
R3237	B	C	2B
R3238	B	C	2C
R3239	B	C	2B
R3240	B	C	14F
R3241	B	C	3B
R3242	B	C	8E
R3243	B	C	3B
R3244	B	C	7B
R3245	B	C	8F
R3246	B	C	8E
R3247	B	C	8E
R3251	B	C	3B
R3252	B	C	9E
R3304	B	C	14C
R3305	B	C	15C
R3306	B	C	15C
R3307	B	C	15B
R3308	B	C	15C
R3309	B	C	15B
R3310	B	C	15C
R3311	B	C	15B
R3312	B	C	15C
R3313	B	C	15B
R3314	B	C	16B
R3316	B	C	16B
R3317	B	C	16C
R3318	B	C	16B
R3319	B	C	16C
R3322	B	C	16D
R3323	B	C	16D
R3324	B	C	16D
R3325	B	C	16D
R3326	B	C	16E
R3327	B	C	16E
R3328	B	C	16E
R3329	B	C	16D
R3330	B	C	15D
R3331	B	C	16E
R3332	B	C	15D
R3333	B	C	15E
R3334	B	C	15D
R3335	B	C	15D
R3336	B	C	15E
R3337	B	C	15E
R3338	B	C	15D
R3339	B	C	15D
R3340	B	C	14D
R3341	B	C	14D
R3342	B	C	14D
R3345	B	C	20N
R3346	B	C	22N
R3353	B	C	15B
R3354	B	C	16B
R3501	B	C	14B
R3502	B	C	14B
R3503	B	C	13A
R3504	B	C	14A
R3505	B	C	13A
R3506	B	C	14A
R3961	B	C	16B
R3962	B	C	17C
R4001	B	C	11F
R4002	B	C	10F
R4003	B	C	10F
R4004	B	C	10F
R4005	B	C	9F
R4006	B	C	9F
R4007	B	C	9F
R4008	B	C	7E
R4009	B	C	12F
R4010	B	C	11F
R4011	B	C	11F
R4012	B	C	11F
R4013	B	C	10G
R4014	B	C	11G
R4015	B	C	11F
R4016	B	C	11F
R4017	B	C	11F
R4018	B	C	11F
R4019	B	C	10G
R4020	B	C	7F
R4021	B	C	10F
R5001	A	D	5P
R5101	A	D	3M
R5102	A	D	3L
R5103	A	D	2M
R5104	A	D	4J
R5105	A	D	3K
R5106	A	D	2K
R5107	A	D	2J
R5108	A	D	4M
R5109	B	C	2K
R5110	B	C	2K
R5111	B	C	4L
R5112	B	C	1J
R5113	A	D	2L
R5114	A	D	2N
R5115	A	D	2M
R5116	A	D	2M
R5301	A	D	1C
R5302	B	C	3C
R5303	B	C	3C
R5304	A	D	1E
R5305	A	D	4I
R5306	B	C	3D
R5307	B	C	1F
R5308	B	C	4G
R5309	B	C	4G
R5310	B	C	3F
R5311	B	C	3E
R5312	B	C	1D
R5313	A	D	1D
R5314	B	C	3D
R5315	B	C	4D
R5316	B	C	4C
R5317	B	C	3B
R5318	B	C	3B
R5319	A	D	3D
R5320	B	C	2D
R5321	B	C	4E
R5322	B	C	4F
R5323	A	D	4H
R5324	A	D	5C
R5325	B	C	3D
R5326	B	C	3D
R5327	B	C	3D
R5328	B	C	5M
R5329	A	D	5N
R5330	A	D	5M
R5331	B	C	3C
R5332	B	C	3C
R5333	A	D	2E
R5334	A	D	2E
R6020	B	C	22N
R6021	B	C	22M
R6022	B	C	22N
R6023	B	C	22M
R6025	B	C	22N
R6030	B	C	22I
R6031	B	C	21K
R6032	B	C	20G
R6033	B	C	21G
R6034	B	C	22I
R6035	B	C	22H
R6037	B	C	22H
R6038	B	C	22L
R6039	B	C	22H
R6050	B	C	21O
R6051	B	C	22O
R6052	B	C	22O
R6053	B	C	22P
R6080	B	C	21G
R6081	B	C	21G
R6082	B	C	22N
R6101	B	C	19P
R6102	B	C	20P
R6508	B	C	21F
R6509	B	C	21G
R6510	B	C	21F
R6511	B	C	21G
R6551	B	C	21I
R6552	B	C	21I
R6553	A	D	21D
R6554	B	C	22E
R7202	B	C	16P
R7203	B	C	16P
R7204	A	D	15P
R7501	B	C	12P
R7502	B	C	13P
R7503	B	C	12O
R7504	B	C	13O
R7506	B	C	9P
R7507	B	C	9P
R7509	B	C	9P
R7511	B	C	9P
R7513	B	C	7P
R7514	B	C	8P
R7515	B	C	7O
R7516	B	C	8P
R7517	B	C	9P
R7518	B	C	9O
R7519	A	D	9O
R7520	B	C	8O
R7521	A	D	8O
R7522	B	C	8O
R7523	B	C	11P
R7524	B	C	11P
R7525	B	C	11Q
R7526	B	C	11P
R7527	B	C	11P
R7528	B	C	10P
R7529	B	C	10P
R7530	B	C	21A
R7531	B	C	11P
R7532	B	C	12O
R7533	B	C	12O
R7534	B	C	12P
R7535	B	C	13O
R7536	B	C	15P
R7537	B	C	14P
R7538	B	C	13O
R7541	A	D	11O
R7542	B	C	11O
TEST POINT			
TP106	A	D	21H
TP111	A	D	15M
TP203	A	D	8M
TP203	A	D	21H
TP225	A	D	16L
TP225	A	D	16L
TP390	B	C	8C
TP390	B	C	8B
TP390	B	C	11C
TP390	B	C	11C
TP390	B	C	12B
TP400	A	D	9M
OTHER			
CF250	A	D	18D
CF330	A	D	16C
CF603	A	D	21J
CP350	A	D	14A
CP400	A	D	5J
CP530	A	D	1E
CP530	A	D	4G
CP530	A	D	4E
F5001	A	D	1P
GND1	A	D	19K
GND2	A	D	21P
K5101	A	D	3K
LC250	A	D	20B
LF500	A	D	2P
LF500	A	D	4O
LPF25	A	D	21C
PC300	A	D	17A
PC300	A	D	9C
PC510	A	D	4L
PC510	A	D	4M
PC530	A	D	2D
S3002	A	D	7A
S6050	A	D	17P
SG500	A	D	3P
T2051	A	D	6J
T2052	A	D	20F
T5001	A	D	1J
TU600	A	D	21P
VA500	A	D	2O
VA500	A	D	4P
VR225	A	D	19L
WR1	A	D	16I
WR2	A	D	14O
WR3	A	D	11I
WR4	A	D	21I
X1	A	D	14J
X2	A	D	14J
X3001	A	D	11C
X3002	A	D	12C

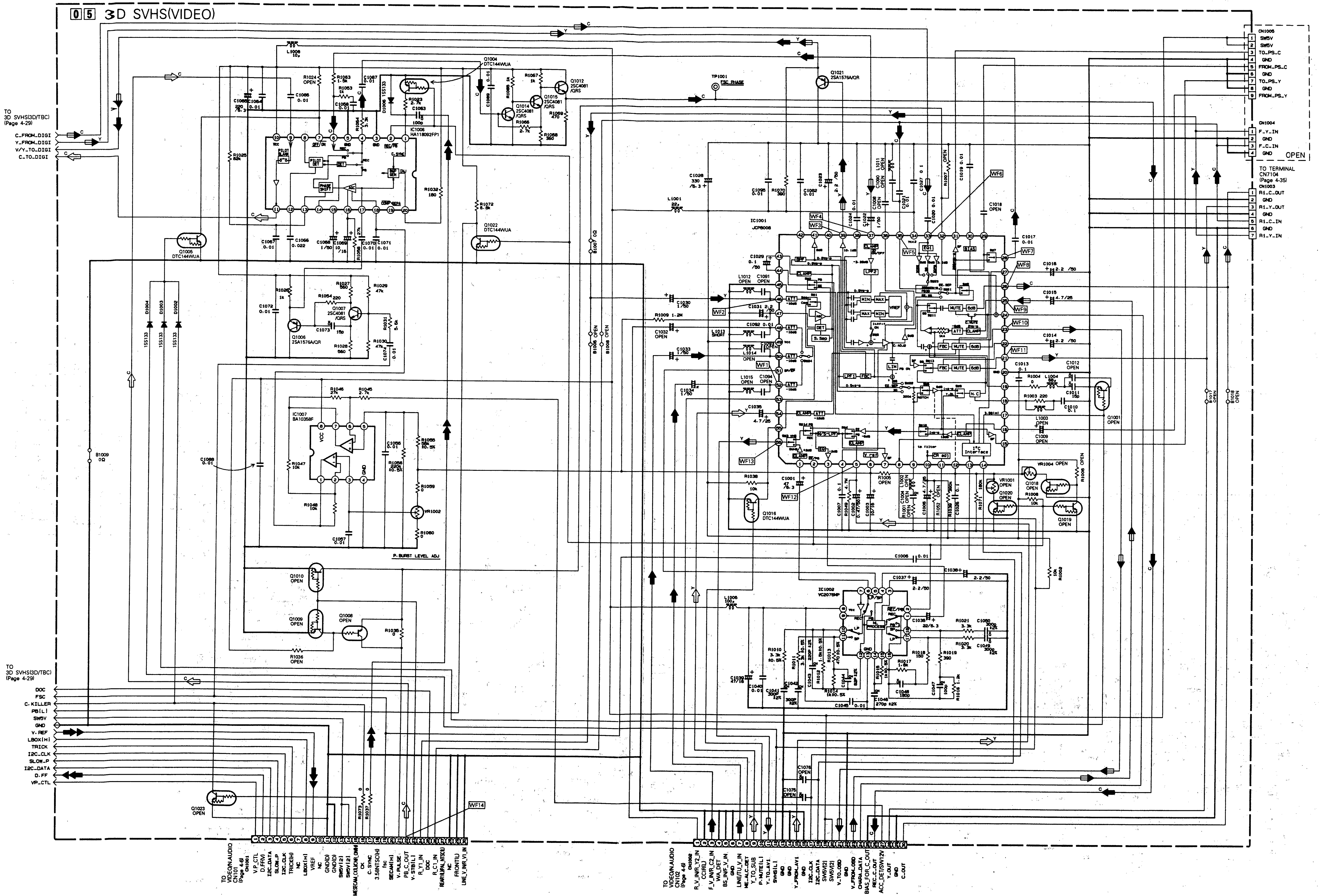
4.11 MAIN AND A/C HEAD CIRCUIT BOARDS


DANGEROUS VOLTAGE
PRIMARY
REG
AV
TERM
FMA
TUNER
VSC
SYSCON
03 MAIN PWB
LPB10048-001D
STYLE PIN
UL MARK

— A/C HEAD —

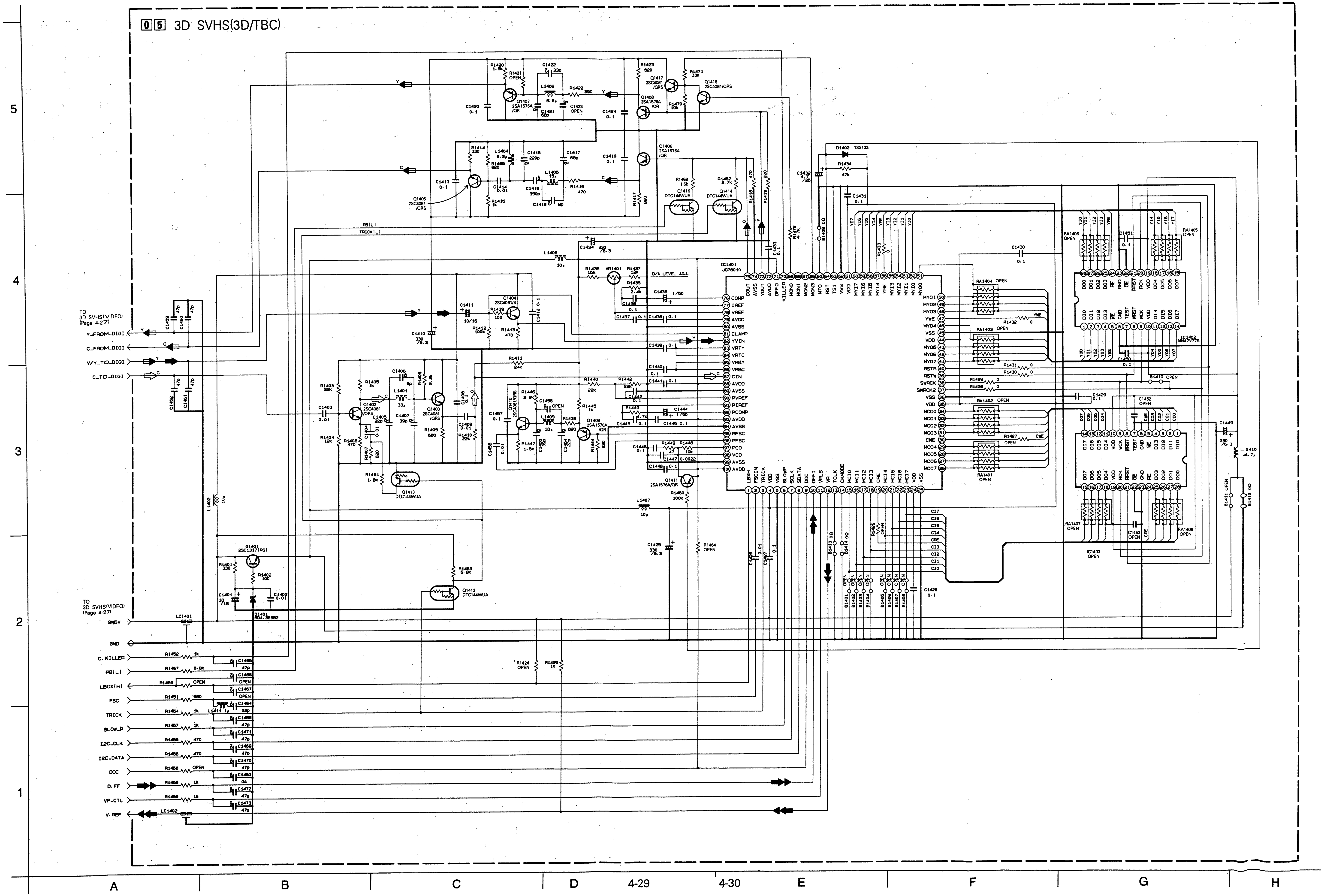

LPB10010-001A
1
2
6
7
UL MARK
A/C HEAD PWB

4.12 3D SVHS(VIDEO) SCHEMATIC DIAGRAM


05 3D SVHS(VIDEO)
TO
3D SVHS(3D/TBC)
(Page 4-29)
C_FROM_DIGI
Y_FROM_DIGI
V/Y_TO_DIGI
C_TO_DIGI
TO
3D SVHS(3D/TBC)
(Page 4-29)
DOC
FSC
C.KILLER
PB(L)
SW5V
GND
V.REF
LBOX(H)
TRICK
I2C_CLK
SLOW_P
I2C_DATA
D.FF
VP_CTL
Q1023
OPEN
TO
VIDEO/N.AUDIO
CN101
(Page 4-6)
CN1001
V.P_CTL
D.FF(V)
I2C_DATA
SLOW_P
I2C_CLK
TRICK(H)
NC
LBOX(H)
VREF
NC
GND(D)
GND(D)
SW5V(2)
SW5V(2)
MESECAM_CK(L)/CNR_ON(H)
CK
C.SYNC
3.58NTSC(H)
fsc
SECAM(H)
V.PULSE
PB_C_OUT
V.STB(L)
R_Y1_IN
DOC
R_C1_IN
REAR1(L)/PAL_NTSC(L)
NC
FRONT(L)
LINE_V_INR_V1_IN
R1073
R1037
WF14
TO
VIDEO/N.AUDIO
CN102
(Page 4-6)
CN1002
R_V_IN/R_Y2_IN
CCIR(L)
F_V_IN/R_C2_IN
WA_DET
BS_IN/F_V_IN
GND
LINE/TU_V_IN
ME_ALC_DET
Y_TO_SUB
P.MUTE(L)
Y_TO_AV1
SVHS(L)
GND
GND
Y_FROM_AV1
GND
I2C_CLK
I2C_DATA
SW5V(2)
SW5V(2)
V_TO_OSD
GND
V_FROM_OSD
CHARA_DATA
BIAS_FOR_C_OUT
REC_C_OUT
ACC_DET/SW12V
Y_OUT
GND
C_OUT
CN1005
SW5V
SW5V
TO_PS_C
GND
FROM_PS_C
GND
TO_PS_Y
GND
FROM_PS_Y
CN1004
F_Y_IN
GND
F_C_IN
GND
OPEN
TO TERMINAL
CN7104
(Page 4-35)
CN1003
R1_C_OUT
GND
R1_Y_OUT
GND
R1_C_IN
GND
R1_Y_IN
IC1006
HA118092FP1
IC1007
BA10358F
IC1001
JCP8008
IC1002
YC2079HP
Q1004
DTC144WUA
Q1005
DTC144WUA
Q1006
2SA1576A/QR
Q1007
2SC4081
/QRS
Q1012
2SC4081
/QRS
Q1014
2SC4081
/QRS
Q1015
2SC4081
/QRS
Q1016
DTC144WUA
Q1021
2SA1576A/QR
Q1022
DTC144WUA
TP1001
FSC PHASE
P.BURST LEVEL ADJ
I²C Interface
WF1
WF2
WF3
WF4
WF5
WF6
WF7
WF8
WF9
WF10
WF11
WF12
WF13
5
4
3
2
1
A
B
C
D
E
F
G
H

NOTE : For 3D SVHS(VIDEO) waveforms, please refer to page 4-31.

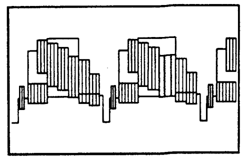
4.13 3D SVHS(3D/TBC) SCHEMATIC DIAGRAM


05 3D SVHS(3D/TBC)
TO
3D SVHS(VIDEO)
(Page 4-27)
Y_FROM_DIGI
C_FROM_DIGI
V/Y_TO_DIGI
C_TO_DIGI
TO
3D SVHS(VIDEO)
(Page 4-27)
SW5V
GND
C.KILLER
PB(L)
LBOX(H)
FSC
TRICK
SLOW_P
I2C_CLK
I2C_DATA
DOC
D.FF
VP_CTL
V.REF
LC1401
LC1402
R1452 1k
R1467 6.8k
R1453 OPEN
R1451 680
R1454 1k
L1411 1μ
R1457 1k
R1455 470
R1456 470
R1450 OPEN
R1458 1k
R1459 1k
C1465 47p
C1466 OPEN
C1467 OPEN
C1464 33p
C1468 47p
C1471 47p
C1469 47p
C1470 47p
C1463 0.01
C1472 47p
C1473 47p
Q1401 2SC1317(RS)
R1401 330
R1402 100
C1401 33/16
C1402 0.01
D1401 RD4.3ESB2
Q1412 DTC144WUA
R1463 6.8k
L1402 10μ
Q1402 2SC4081/QRS
Q1403 2SC4081/QRS
Q1404 2SC4081/S
Q1405 2SC4081/QRS
Q1406 2SA1576A/QR
Q1407 2SA1576A/QR
Q1408 2SA1576A/QR
Q1409 2SA1576A/QR
Q1410 2SC4081/QRS
Q1411 2SA1576A/QR
Q1413 DTC144WUA
Q1414 DTC144WUA
Q1416 DTC144WUA
Q1417 2SC4081/QRS
Q1418 2SC4081/QRS
PB(L)
TRICK(L)
L1408 10μ
L1407 10μ
C1434 330/6.3
VR1401
D/A LEVEL ADJ.
D1402 1SS133
R1434 47k
C1432 47/25
C1431 0.1
C1430 0.1
C1425 330/6.3
R1464 OPEN
R1460 100k
R1424 OPEN
R1425 1k
IC1401 uPD8010
COMP
IREF
VREF
AVDD
AVSS
CLAMP
YVIN
VRTY
VRTC
VRBY
VRBC
CIN
AVDD
AVSS
PVREF
PIREF
PCOMP
AVDD
AVSS
RFSC
PFSC
PCO
VCO
AVSS
AVDD
COUT
AVSS
YOUT
AVDD
OFFG
KILLER
MON0
MON1
MON2
MON3
MTO
RST
TS1
VSS
VDD
MYI7
MYI6
MYI5
MYI4
YWE
MYI3
MYI2
MYI1
MYI0
MYO0
MYO1
MYO2
MYO3
YWE
MYO4
VSS
VDD
MYO5
MYO6
MYO7
RSTR
RSTW
SWRCK
SWRCK2
VSS
VDD
MCO0
MCO1
MCO2
MCO3
CWE
MCO4
MCO5
MCO6
MCO7
VSS
LBXH
FSCIN
TRICK
VDD
VSS
SLCK
SDATA
DOC
DFFI
VRLS
VR
TCLK
CKMODE
MCI0
MCI1
MCI2
MCI3
CRE
MCI4
MCI5
MCI6
MCI7
VDD
VSS
RA1401 OPEN
RA1402 OPEN
RA1403 OPEN
RA1404 OPEN
RA1405 OPEN
RA1406 OPEN
RA1407 OPEN
RA1408 OPEN
IC1402 MN47V77S
IC1403 OPEN
B1410 OPEN
B1411 OPEN
B1412 0Ω
C1449 330/6.3
L1410 4.7μ
CI7
CI6
CI5
CI4
CRE
CI3
CI2
CI1
CI0
5
4
3
2
1
A
B
C
D
E
F
G
H

WAVEFORMS

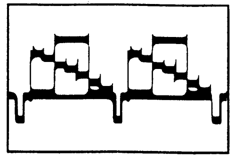
— 3D SVHS (VIDEO) —

WF1 IC 1001-52



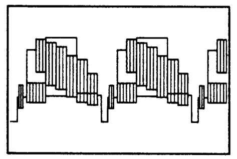
REC 0.76 Vp-p
20 mV/20 μsec/DIV

WF2 IC1001-46



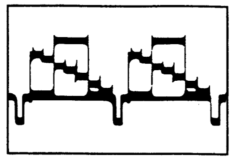
REC 1.0 Vp-p
20 mV/20 μsec/DIV

WF3-1 IC1001-39



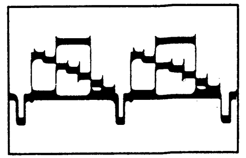
REC 1.8 Vp-p
50 mV/20 μsec/DIV

WF3-2 IC1001-39



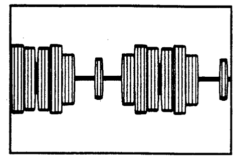
REC/PB 1.7 Vp-p
50 mV/20 μsec/DIV

WF4 IC 1001-37



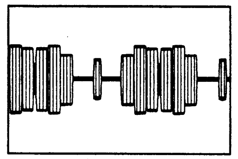
REC/PB 0.8 Vp-p
20 mV/20 μsec/DIV

WF5 IC1001-35



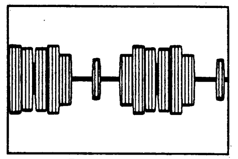
REC 0.65 Vp-p
20 mV/20 μsec/DIV

WF6-1 IC1001-33



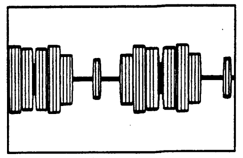
REC 0.35 Vp-p
10 mV/20 μsec/DIV

WF6-2 IC1001-33



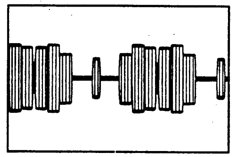
PB 0.5 Vp-p
10 mV/20 μsec/DIV

WF7 IC1001-28



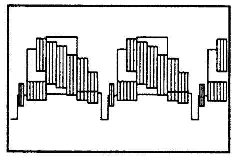
REC 0.7 Vp-p
20 mV/20 μsec/DIV

WF8 IC1001-26



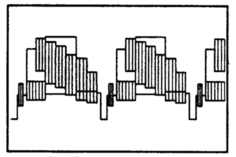
REC/PB 1.5 Vp-p
50 mV/20 μsec/DIV

WF9 IC1001-25



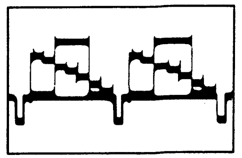
REC/PB 2.2 Vp-p
50 mV/20 μsec/DIV

WF10 IC1001-23



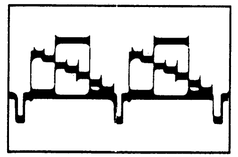
REC/PB 2.2 Vp-p
50 mV/20 μsec/DIV

WF11 IC1001-21



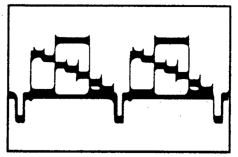
REC/PB 2.2 Vp-p
50 mV/20 μsec/DIV

WF12 IC1001-5



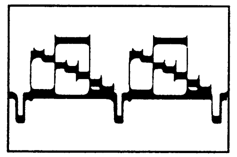
PB 0.56 Vp-p
20 mV/20 μsec/DIV

WF13-1 IC1001-56



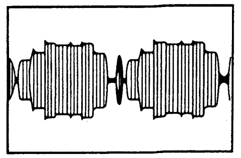
REC 0.52 Vp-p
20 mV/20 μsec/DIV

WF13-2 IC1001-56



PB 0.56 Vp-p
20 mV/20 μsec/DIV

WF14 CN1001-22



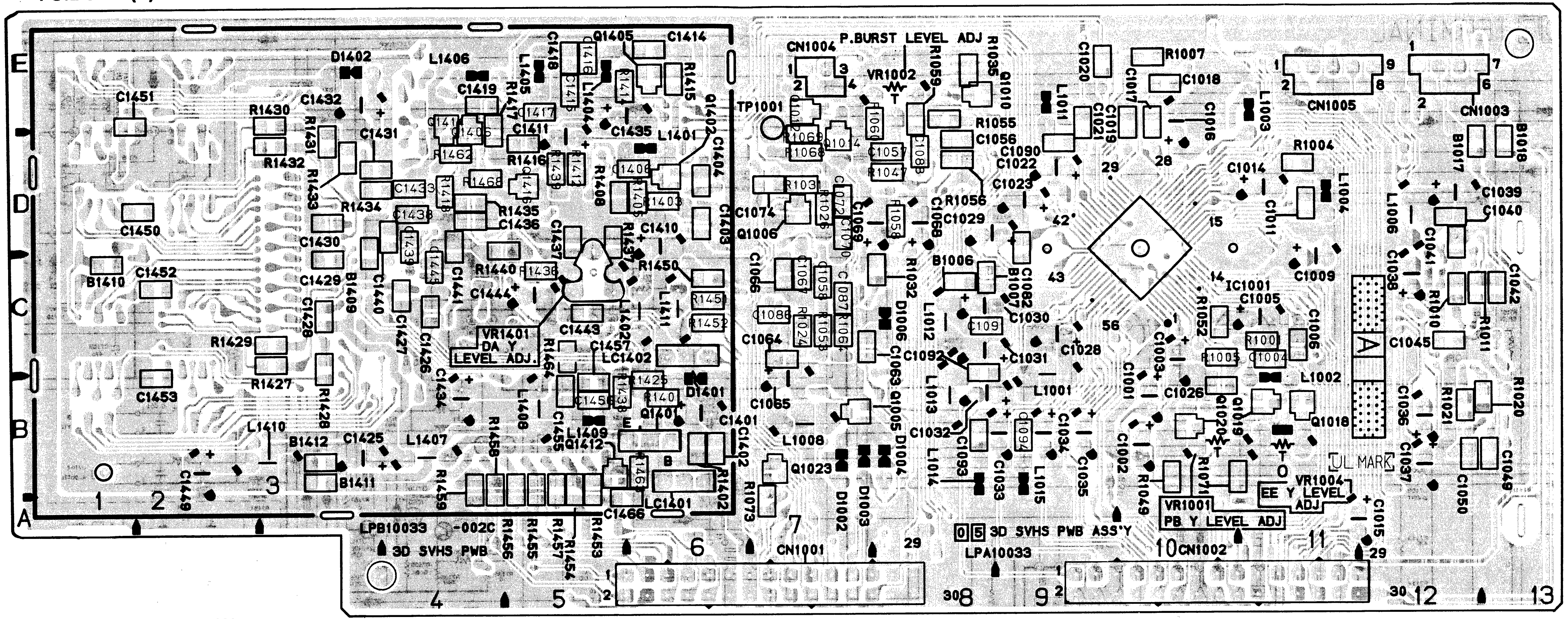
PB 0.62 Vp-p
20 mV/20 μsec/DIV

COMPONENT PARTS LOCATION GUIDE <3D SVHS>

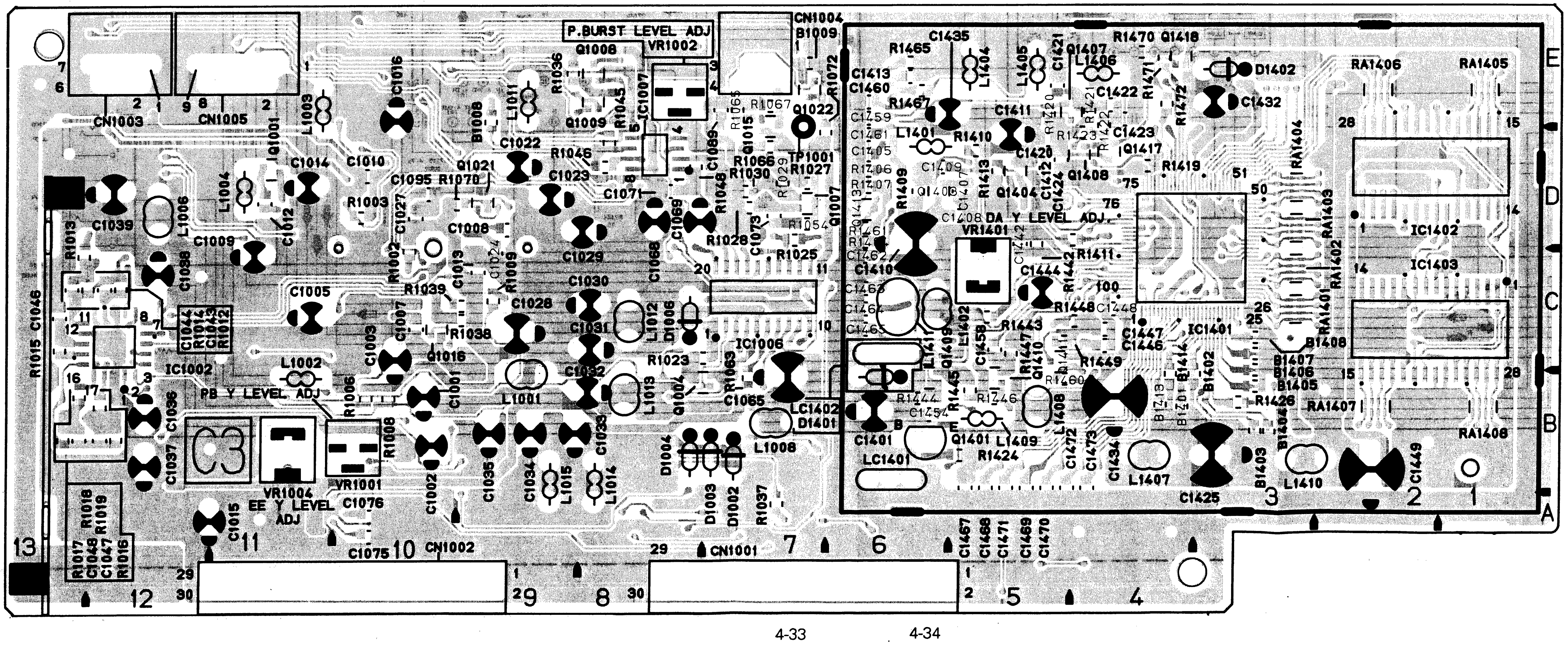
REF.NO.	LOCATION		
CAPACITOR			
C1001	A	D	10B
C1002	A	D	10B
C1003	A	D	10C
C1004	B	C	11C
C1005	A	D	11C
C1006	B	C	11C
C1007	A	C	10C
C1008	A	C	9D
C1009	A	D	11C
C1010	A	C	10D
C1011	B	C	11D
C1012	A	C	11D
C1013	A	C	9C
C1014	A	D	11D
C1015	A	D	12A
C1016	A	D	10D
C1017	B	C	10E
C1018	B	C	10E
C1019	B	C	10E
C1020	B	C	9E
C1021	B	C	9E
C1022	A	D	9D
C1023	A	D	9D
C1024	A	C	9C
C1026	B	C	10B
C1027	A	C	10D
C1028	A	D	9C
C1029	A	D	9D
C1030	A	D	8C
C1031	A	D	9C
C1032	A	D	9B
C1033	A	D	9B
C1034	A	D	9B
C1035	A	D	9B
C1036	A	D	12B
C1037	A	D	12B
C1038	A	D	12C
C1039	A	D	12D
C1040	B	C	12D
C1041	B	C	12D
C1042	B	C	13C
C1043	A	C	12C
C1044	A	C	13C
C1045	B	C	12C
C1046	A	C	13C
C1047	A	C	12B
C1048	A	C	13B
C1049	B	C	13B
C1050	B	C	12B
C1056	B	C	8D
C1057	B	C	8D
C1058	B	C	7C
C1063	B	C	7C
C1064	B	C	7C
C1065	A	D	7B
C1066	B	C	7C
C1067	B	C	7C
C1068	A	D	8D
C1069	A	D	8D
C1070	B	C	7D
C1071	A	C	8D
C1072	B	C	7D
C1073	A	C	7D
C1074	B	C	7D
C1075	A	C	10A
C1076	A	C	10A
C1082	B	C	9D
C1086	B	C	7C
C1087	B	C	7C
C1088	B	C	8D
C1089	A	C	7E
C1090	B	C	9D
C1091	B	C	8C
C1092	B	C	8B
C1093	B	C	8B
C1094	B	C	9B
C1095	A	C	10D
C1401	A	D	6B
C1402	B	C	6B
C1403	B	C	6D
C1404	B	C	6D
C1405	A	C	6D
C1406	B	C	6D
C1407	A	C	5D
C1408	A	C	5D
C1409	A	C	6D
C1410	A	D	6D
C1411	A	D	5D
C1412	A	C	5D
C1413	A	C	6E
C1414	B	C	6E
C1415	B	C	5E
C1416	B	C	5E
C1417	B	C	5E
C1418	B	C	5E
C1419	B	C	4E
C1420	A	C	5D
C1421	A	C	5E
C1422	A	C	4E
C1423	A	C	4E
C1424	A	C	5D
C1425	A	D	3B
C1426	B	C	4C
C1427	B	C	4C
C1428	B	C	3C
C1429	B	C	3C
C1430	B	C	3D
C1431	B	C	3D
C1432	A	D	3E
C1433	B	C	4D
C1434	A	D	4B
C1435	A	D	5E
C1436	B	C	4D
C1437	B	C	5D
C1438	B	C	4D
C1439	B	C	4D
C1440	B	C	4D
C1441	B	C	4D
C1442	A	C	5D
C1443	B	C	5C
C1444	A	D	5C
C1445	B	C	4C
C1446	A	C	4C
C1447	A	C	4C
C1448	A	C	4C
C1449	A	D	2B
C1450	B	C	2D
C1451	B	C	1E
C1452	B	C	2C
C1453	B	C	2B
C1454	A	C	6B
C1455	B	C	5B
C1456	B	C	5B
C1457	B	C	5B
C1458	A	C	5C
C1459	A	C	6E
C1460	A	C	6E
C1461	A	C	6D
C1462	A	C	6C
C1463	A	C	6C
C1464	A	C	6C
C1465	A	C	6C
C1466	B	C	6A
C1467	A	C	5B
C1468	A	C	5B
C1469	A	C	5B
C1470	A	C	5B
C1471	A	C	5B
C1472	A	C	5B
C1473	A	C	4B
CONNECTOR			
CN1001	A	D	6A
CN1002	A	D	9A
CN1003	A	D	12E
CN1004	A	D	7E
CN1005	A	D	11E
DIODE			
D1002	A	D	7B
D1003	A	D	7B
D1004	A	D	8B
D1006	A	D	8C
D1401	A	D	6B
D1402	A	D	3E
IC			
IC1001	B	C	10D
IC1002	A	C	12C
IC1006	A	C	7C
IC1007	A	C	8D
IC1401	A	C	4D
IC1402	A	C	2D
IC1403	A	C	2C
COIL			
L1001	A	D	9B
L1002	A	D	11B
L1003	A	D	11D
L1004	A	D	11D
L1006	A	D	12D
L1008	A	D	7B
L1011	A	D	9E
L1012	A	D	8C
L1013	A	D	8B
L1014	A	D	8A
L1015	A	D	9A
L1401	A	D	6D
L1402	A	D	6C
L1404	A	D	5E
L1405	A	D	5E
L1406	A	D	4E
L1407	A	D	4B
L1408	A	D	5B
L1409	A	D	5B
L1410	A	D	3B
L1411	A	D	6C
TRANSISTOR			
Q1001	A	C	11D
Q1004	A	C	8B
Q1005	B	C	7B
Q1006	B	C	7D
Q1007	A	C	7D
Q1008	A	C	8E
Q1009	A	C	8E
Q1010	B	C	8E
Q1012	B	C	7E
Q1014	B	C	7D
Q1015	A	C	7E
Q1016	A	C	10C
Q1018	B	C	11B
Q1019	B	C	11B
Q1020	B	C	10B
Q1021	A	C	9D
Q1022	A	C	7E
Q1023	B	C	7B
Q1401	A	D	6B
Q1402	B	C	6D
Q1403	A	C	6D
Q1404	A	C	5D
Q1405	B	C	6E
Q1406	B	C	4D
Q1407	A	C	5E
Q1408	A	C	4D
Q1409	A	C	6B
Q1410	A	C	5B
Q1411	A	C	5C
Q1412	B	C	5B
Q1413	A	C	6D
Q1414	B	C	4D
Q1416	B	C	5D
Q1417	A	C	4D
Q1418	A	C	4E
RESISTOR			
R1001	B	C	11C
R1002	A	C	10C
R1003	A	C	10D
R1004	B	C	11D
R1005	B	C	10C
R1006	A	C	10B
R1007	B	C	10E
R1008	A	C	10B
R1009	A	C	9C
R1010	B	C	12C
R1011	B	C	12C
R1012	A	C	12C
R1013	A	C	13C
R1014	A	C	13C
R1015	A	C	13C
R1016	A	C	12B
R1017	A	C	13B
R1018	A	C	13B
R1019	A	C	12B
R1020	B	C	13B
R1021	B	C	12B
R1023	A	C	8C
R1024	B	C	7C
R1025	A	C	7D
R1026	B	C	7D
R1027	A	C	7D
R1028	A	C	7D
R1029	A	C	7D
R1030	A	C	7D
R1031	B	C	7D
R1032	B	C	8C
R1035	B	C	8E
R1036	A	C	9E
R1037	A	C	7A
R1038	A	C	9C
R1039	A	C	9C
R1045	A	C	8D
R1046	A	C	8D
R1047	B	C	8D
R1048	A	C	8D
R1049	B	C	10B
R1052	B	C	10C
R1053	B	C	7C
R1054	A	C	7D
R1055	B	C	8E
R1056	B	C	8D
R1058	B	C	8D
R1059	B	C	8E
R1060	B	C	8E
R1063	A	C	7B
R1064	B	C	7C
R1065	A	C	7E
R1066	A	C	7D
R1067	A	C	7E
R1068	B	C	7D
R1069	B	C	7D
R1070	A	C	10D
R1071	B	C	11B
R1072	A	C	7D
R1073	B	C	7A
R1401	B	C	6B
R1402	B	C	6B
R1403	B	C	6D
R1404	A	C	6D
R1405	B	C	6D
R1406	A	C	6D
R1407	A	C	6D
R1408	B	C	5D
R1409	A	C	6D
R1410	A	C	5D
R1411	A	C	5D
R1412	B	C	5D
R1413	A	C	5D
R1414	B	C	6E
R1415	B	C	6E
R1416	B	C	5D
R1417	B	C	4D
R1418	B	C	4D
R1419	A	C	4D
R1420	A	C	5E
R1421	A	C	4E
R1422	A	C	4E
R1423	A	C	4D
R1424	A	C	5B
R1425	B	C	6B
R1426	A	C	3B
R1427	B	C	3C
R1428	B	C	3C
R1429	B	C	3C
R1430	B	C	3E
R1431	B	C	3D
R1432	B	C	3D
R1433	B	C	3D
R1434	B	C	3D
R1435	B	C	4D
R1436	B	C	5C
R1437	B	C	5D
R1438	B	C	5B
R1439	B	C	5D
R1440	B	C	5D
R1442	A	C	5D
R1443	A	C	5C
R1444	A	C	6B
R1445	A	C	5B
R1446	A	C	5B
R1447	A	C	5C
R1448	A	C	4C
R1449	A	C	5C
R1450	B	C	6C
R1451	B	C	6C
R1452	B	C	6C
R1453	B	C	5B
R1454	B	C	5B
R1455	B	C	5B
R1456	B	C	5B
R1457	B	C	5B
R1458	B	C	4B
R1459	B	C	4B
R1460	A	C	5B
R1461	A	C	6D
R1462	B	C	4D
R1463	B	C	6B
R1464	B	C	5C
R1465	A	C	6E
R1467	A	C	6E
R1468	B	C	4D
R1470	A	C	4E
R1471	A	C	4E
R1472	A	C	4E
OTHER			
LC1401	A	D	6B
LC1402	A	D	6C
RA1401	A	C	3C
RA1402	A	C	3C
RA1403	A	C	3D
RA1404	A	C	3D
RA1405	A	C	1E
RA1406	A	C	2E
RA1407	A	C	2B
RA1408	A	C	1B
TP1001	A	D	7E
VR1001	A	D	10B
VR1002	A	D	8E
VR1004	A	D	11B
VR1401	A	D	5C

4.14 3D SVHS CIRCUIT BOARD

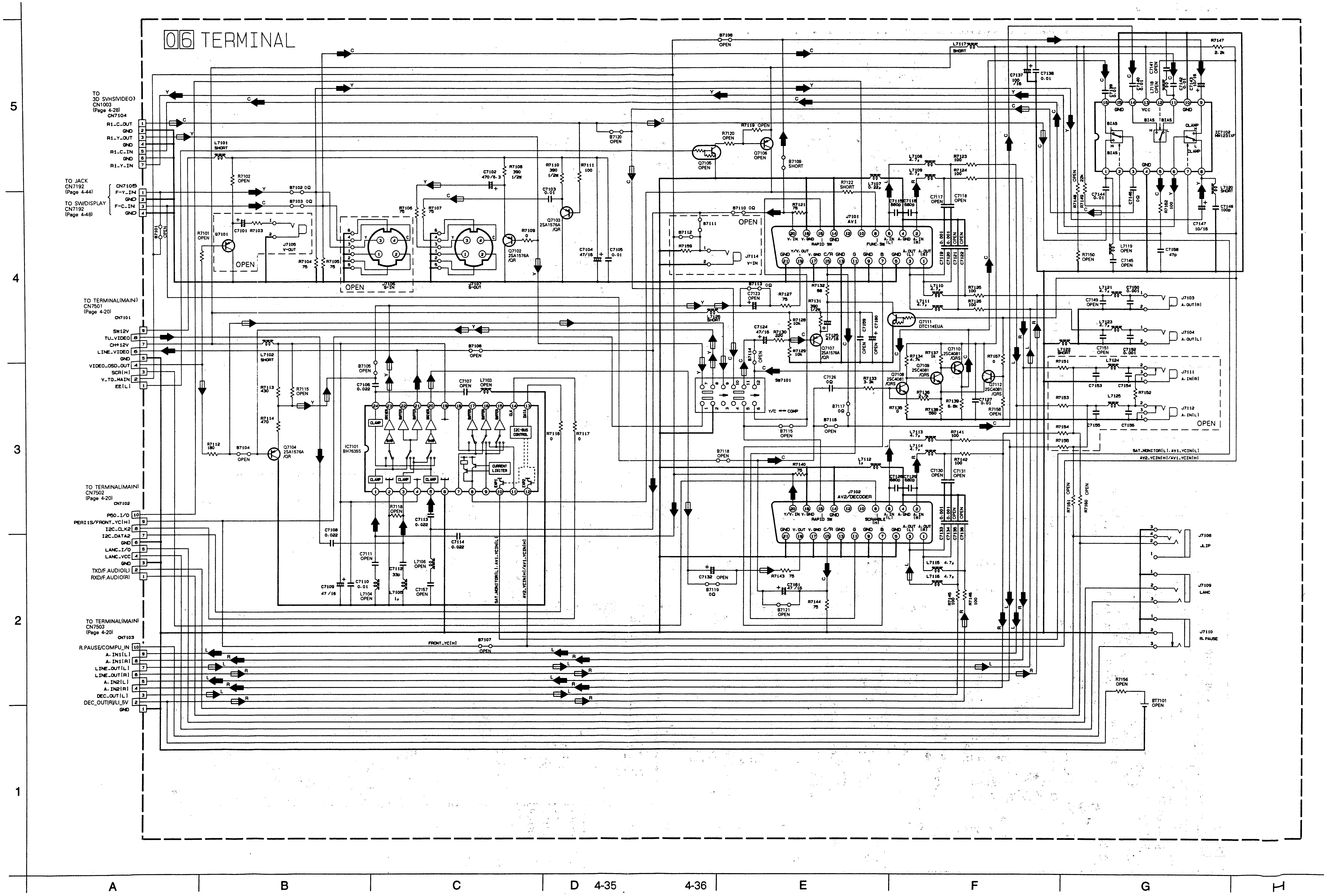
— FOIL SIDE (B) —


P.BURST LEVEL ADJ
CN1004
VR1002
TP1001
CN1005
CN1003
IC1001
VR1401
DA Y LEVEL ADJ.
VR1001
PB Y LEVEL ADJ
VR1004
EE Y LEVEL ADJ
UL MARK
LPB10033 -002C
3D SVHS PWB
05 3D SVHS PWB ASS'Y
LPA10033
CN1001
CN1002
A
B
C
D
E
1
2
3
4
5
6
7
8
9
10
11
12
13

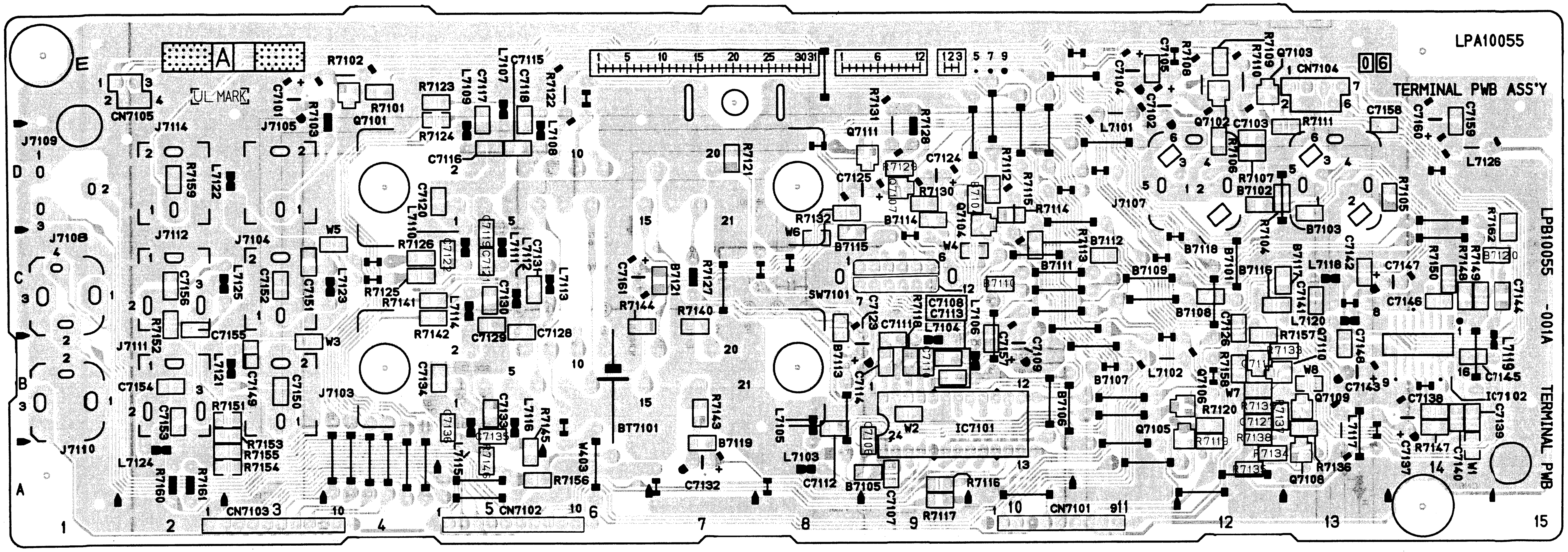
— COMPONENT SIDE (A) —


CN1003
CN1005
CN1004
B1009
P.BURST LEVEL ADJ
Q1008
VR1002
TP1001
IC1002
PB Y LEVEL ADJ
VR1004
EE Y LEVEL ADJ
VR1001
IC1006
DA Y LEVEL ADJ.
VR1401
IC1401
IC1402
IC1403
D1402
RA1406
RA1405
RA1404
RA1403
RA1402
RA1401
RA1407
RA1408
CN1002
CN1001
A
B
C
D
E
1
2
3
4
5
6
7
8
9
10
11
12
13

4.15 TERMINAL SCHEMATIC DIAGRAM


06 TERMINAL
TO 3D SVHS(VIDEO) CN1003 (Page 4-28)
CN7104
R1_C_OUT
GND
R1_Y_OUT
GND
R1_C_IN
GND
R1_Y_IN
TO JACK CN7192 (Page 4-44)
TO SW/DISPLAY CN7192 (Page 4-48)
CN7105
F-Y_IN
GND
F-C_IN
GND
TO TERMINAL(MAIN) CN7501 (Page 4-20)
CN7101
SW12V
TU_VIDEO
CH+12V
LINE_VIDEO
GND
VIDEO_OSD_OUT
SCR(H)
V_TO_MAIN
EE(L)
TO TERMINAL(MAIN) CN7502 (Page 4-20)
CN7102
P50_I/O
PERI1S/FRONT_YC(H)
I2C_CLK2
I2C_DATA2
GND
LANC_I/O
LANC_VCC
GND
TXD/F.AUDIO(L)
RXD/F.AUDIO(R)
TO TERMINAL(MAIN) CN7503 (Page 4-20)
CN7103
R.PAUSE/COMPU_IN
A.IN1(L)
A.IN1(R)
LINE_OUT(L)
LINE_OUT(R)
A.IN2(L)
A.IN2(R)
DEC_OUT(L)
DEC_OUT(R)/L1_5V
GND
L7101 SHORT
R7102 OPEN
B7102 0Ω
B7103 0Ω
Q7101
C7101
R7103
J7105 V-OUT
OPEN
R7101 OPEN
B7101 OPEN
R7104 75
R7105 75
J7106 S-IN
J7107 S-OUT
R7106 75
R7107 75
C7102 470/6.3
R7108 390 1/2W
R7110 390 1/2W
R7111 100
C7103 0.01
Q7103 2SA1576A /QR
Q7102 2SA1576A /QR
R7109 0
C7104 47/16
C7105 0.01
L7102 SHORT
R7113 430
R7115 OPEN
R7114 470
B7105 OPEN
C7106 0.022
B7106 OPEN
C7107 OPEN
L7103 OPEN
R7112 180
B7104 OPEN
Q7104 2SA1576A /QR
IC7101 BH7635S
CLAMP
BUFFER
DRIVER
I2C-BUS CONTROL
CURRENT LIMITER
R7116 0
R7117 0
C7108 0.022
R7118 OPEN
C7113 0.022
C7114 0.022
C7111 OPEN
C7110 0.01
C7109 47/16
C7112 33p
L7106 OPEN
L7104 OPEN
L7105 1µ
C7157 OPEN
SAT_MONITOR(L)/AV1_YCIN(L)
AV2_YCIN(H)/AV1_YCIN(H)
FRONT_YC(H)
B7107 OPEN
B7108 OPEN
B7120 OPEN
R7120 OPEN
R7119 OPEN
Q7105 OPEN
Q7106 OPEN
B7109 SHORT
R7122 SHORT
L7107 0.22µ
L7108 4.7µ
L7109 4.7µ
R7123 100
R7124 100
C7115 680p
C7116 680p
C7117 OPEN
C7118 OPEN
R7121 75
J7101 AV1
B7110 0Ω
B7111
B7112
R7159
J7114 V-IN
V-IN
V.GND
RAPID SW
GND
FUNC. SW
A.IN
A.GND
A.OUT
Y/V.OUT
C/R
C7119 0.001
C7120 0.001
C7121 OPEN
C7122 OPEN
B7113 0Ω
C7123 OPEN
R7127 75
R7132 68
R7131 390 1/2W
L7126 SHORT
C7124 47/16
R7128 10k
R7130 220
R7129 10k
Q7107 2SA1576A /QR
C7125 47/16
C7159 OPEN
C7160 OPEN
Q7111 DTC114EUA
SW7101
Y/C ⇒ COMP
C7126 0Ω
R7133 3.3k
B7117 0Ω
B7116 OPEN
B7115 OPEN
B7118 OPEN
L7110 4.7µ
L7111 4.7µ
R7125 100
R7126 100
R7134 4.7k
R7137 1k
Q7110 2SC4081 /QRS
Q7109 2SC4081 /QRS
Q7108 2SC4081 /QRS
Q7112 2SC4081 /QRS
R7157 0
R7136 1k
R7135 0
R7138 560
R7139 6.8k
C7127 0.01
R7158 OPEN
L7113 4.7µ
L7114 4.7µ
R7141 100
R7142 100
L7112 1µ
R7140 75
C7128 680p
C7129 680p
C7130 OPEN
C7131 OPEN
J7102 AV2/DECODER
SCRAMBLE (H)
C7133 0.001
C7134 0.001
C7135 OPEN
C7136 OPEN
L7115 4.7µ
L7116 4.7µ
R7145 100
R7146 100
C7132 OPEN
B7119 0Ω
R7143 75
C7161 47/16
B7121 OPEN
R7144 75
L7117 SHORT
C7137 100 /16
C7138 0.01
R7147 2.2k
C7139 0.01
C7140 0.01
C7141 OPEN
L7118 OPEN
C7142 0.01
C7143 47/16
IC7102 MM1231XF
BIAS
CLAMP
VCC
GND
R7148 OPEN
R7149 22k
C7144 0.01
C7146 0Ω
R7152 100
C7147 10/16
C7148 100p
L7120 SHORT
R7150 OPEN
L7119 OPEN
C7145 OPEN
C7158 47p
L7121 4.7µ
C7150 0.001
C7149 OPEN
J7103 A.OUT(R)
L7123 4.7µ
J7104 A.OUT(L)
L7122 SHORT
C7151 OPEN
C7152 0.001
L7124
R7151
C7153
C7154
J7111 A.IN(R)
L7125
R7153
R7152
J7112 A.IN(L)
C7155
C7156
R7154
R7155
SAT_MONITOR(L)/AV1_YCIN(L)
AV2_YCIN(H)/AV1_YCIN(H)
R7161 OPEN
R7160 OPEN
J7108 JLIP
J7109 LANC
J7110 R.PAUSE
R7156 OPEN
BT7101 OPEN
5
4
3
2
1
A
B
C
D
E
F
G
H

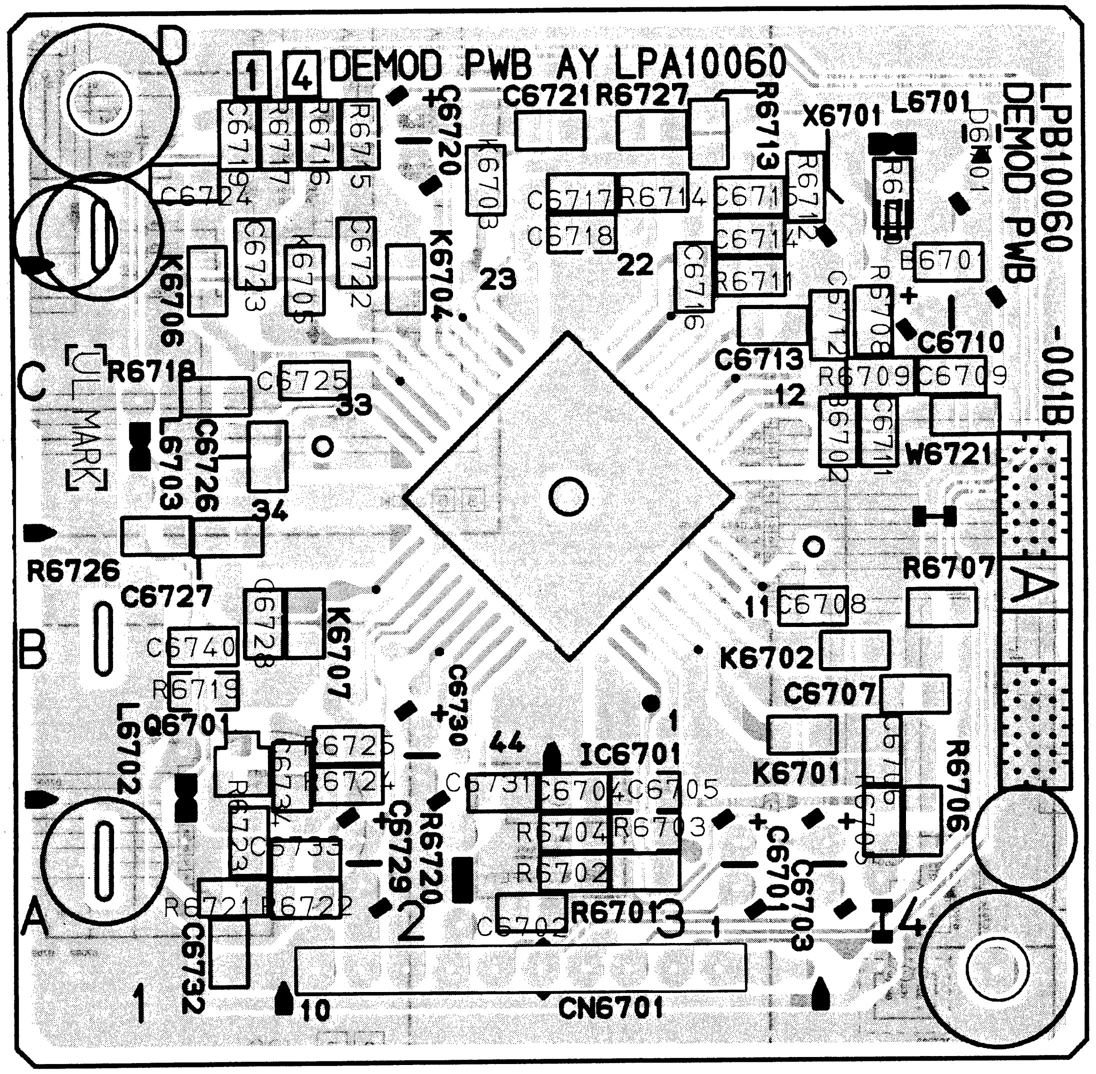
4.16 TERMINAL CIRCUIT BOARD


LPA10055
TERMINAL PWB ASS'Y
LPB10055 -001A TERMINAL PWB
UL MARK
A
E
D
C
B
A
06
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
CN7101
CN7102
CN7103
CN7104
CN7105
IC7101
IC7102
BT7101
SW7101
J7103
J7104
J7105
J7107
J7108
J7109
J7110
J7111
J7112
J7114
Q7101
Q7102
Q7103
Q7105
Q7106
Q7108
Q7109
Q7111
W1
W2
W3
W4
W5
W6
W7
W8
W403

COMPONENT PARTS LOCATION GUIDE <TERMINAL>

REF.NO.	LOCATION		
CAPACITOR			
C7101	A	D	3E
C7102	A	D	11E
C7103	B	C	12D
C7104	A	D	11E
C7105	B	C	11E
C7106	B	C	9A
C7107	B	C	9A
C7108	B	C	9B
C7109	A	D	10B
C7110	B	C	9B
C7111	B	C	9B
C7112	B	C	8B
C7113	B	C	9B
C7114	B	C	9B
C7115	B	C	5D
C7116	B	C	5D
C7117	B	C	5E
C7118	B	C	5E
C7119	B	C	5C
C7120	B	C	5D
C7121	B	C	5C
C7122	B	C	5C
C7123	A	D	9B
C7124	A	D	9D
C7125	A	D	9D
C7126	B	C	12C
C7127	B	C	12B
C7128	B	C	5C
C7129	B	C	5C
C7130	B	C	5C
C7131	B	C	5C
C7132	A	D	7A
C7133	B	C	5B
C7134	B	C	5B
C7135	B	C	5B
C7136	B	C	5B
C7137	A	D	14B
C7138	B	C	14B
C7139	B	C	14B
C7140	B	C	14B
C7141	B	C	13C
C7142	B	C	13C
C7143	A	D	13B
C7144	B	C	15C
C7145	B	C	14B
C7146	B	C	14C
C7147	A	D	13C
C7148	B	C	13B
C7149	B	C	3B
C7150	B	C	3B
C7151	B	C	3C
C7152	B	C	3C
C7153	B	C	2B
C7154	B	C	2B
C7155	B	C	2C
C7156	B	C	2C
C7157	B	C	10B
C7158	B	C	13D
C7159	B	C	14D
C7160	A	D	14D
C7161	A	D	6C
CONNECTOR			
CN7101	A	D	10A
CN7102	A	D	5A
CN7103	A	D	2A
CN7104	A	D	13E
CN7105	A	D	2E
IC			
IC7101	A	D	9B
IC7102	B	C	14B
JACK			
J7101	A	D	6D
J7102	A	D	6B
J7103	A	D	3B
J7104	A	D	3C
J7105	A	D	3D
J7106	A	D	13D
J7107	A	D	12D
J7108	A	D	1C
J7109	A	D	1D
J7110	A	D	1B
J7111	A	D	2B
J7112	A	D	2C
J7114	A	D	2D
COIL			
L7101	A	D	11E
L7102	A	D	12B
L7103	A	D	8A
L7104	A	D	9B
L7105	A	D	8A
L7106	A	D	10B
L7107	A	D	5E
L7108	A	D	5D
L7109	A	D	5D
L7110	A	D	5C
L7111	A	D	5C
L7112	A	D	5C
L7113	A	D	6C
L7114	A	D	5C
L7115	A	D	5B
L7116	A	D	5B
L7117	A	D	13A
L7118	A	D	13C
L7119	A	D	15B
L7120	A	D	13C
L7121	A	D	3B
L7122	A	D	3D
L7123	A	D	4C
L7124	A	D	2A
L7125	A	D	3C
L7126	A	D	14D
TRANSISTOR			
Q7101	B	C	4E
Q7102	B	C	12E
Q7103	B	C	12E
Q7104	B	C	10D
Q7105	B	C	12B
Q7106	B	C	12B
Q7107	B	C	9D
Q7108	B	C	13A
Q7109	B	C	13B
Q7110	B	C	12B
Q7111	B	C	9D
Q7112	B	C	12B
RESISTOR			
R7101	B	C	4E
R7102	A	D	3E
R7103	A	D	3E
R7104	B	C	12D
R7105	B	C	14D
R7106	B	C	12D
R7107	B	C	12D
R7108	A	D	12E
R7109	B	C	12E
R7110	A	D	12E
R7111	B	C	13D
R7112	B	C	10D
R7113	B	C	10C
R7114	B	C	10D
R7115	A	D	10C
R7116	B	C	9A
R7117	B	C	9A
R7118	B	C	9B
R7119	B	C	12A
R7120	B	C	12B
R7121	B	C	7D
R7122	A	D	6E
R7123	B	C	5E
R7124	B	C	5E
R7125	B	C	4C
R7126	B	C	4C
R7127	A	D	7C
R7128	A	D	9E
R7129	B	C	9D
R7130	B	C	9D
R7131	A	D	9D
R7132	B	C	8D
R7133	B	C	13B
R7134	B	C	12A
R7135	B	C	12A
R7136	B	C	13B
R7137	B	C	12B
R7138	B	C	12A
R7139	B	C	12B
R7140	B	C	7C
R7141	B	C	4C
R7142	B	C	4C
R7143	B	C	7B
R7144	B	C	6C
R7145	B	C	5A
R7146	B	C	5A
R7147	B	C	14B
R7148	B	C	14C
R7149	B	C	14C
R7150	B	C	14C
R7151	B	C	3B
R7152	B	C	2C
R7153	B	C	3B
R7154	B	C	3A
R7155	B	C	3A
R7156	B	C	5A
R7157	B	C	12B
R7158	B	C	12B
R7159	B	C	2D
R7160	A	D	2A
R7161	A	D	2A
R7162	B	C	15C
OTHER			
BT7101	A	D	6B
SW7101	A	D	9C

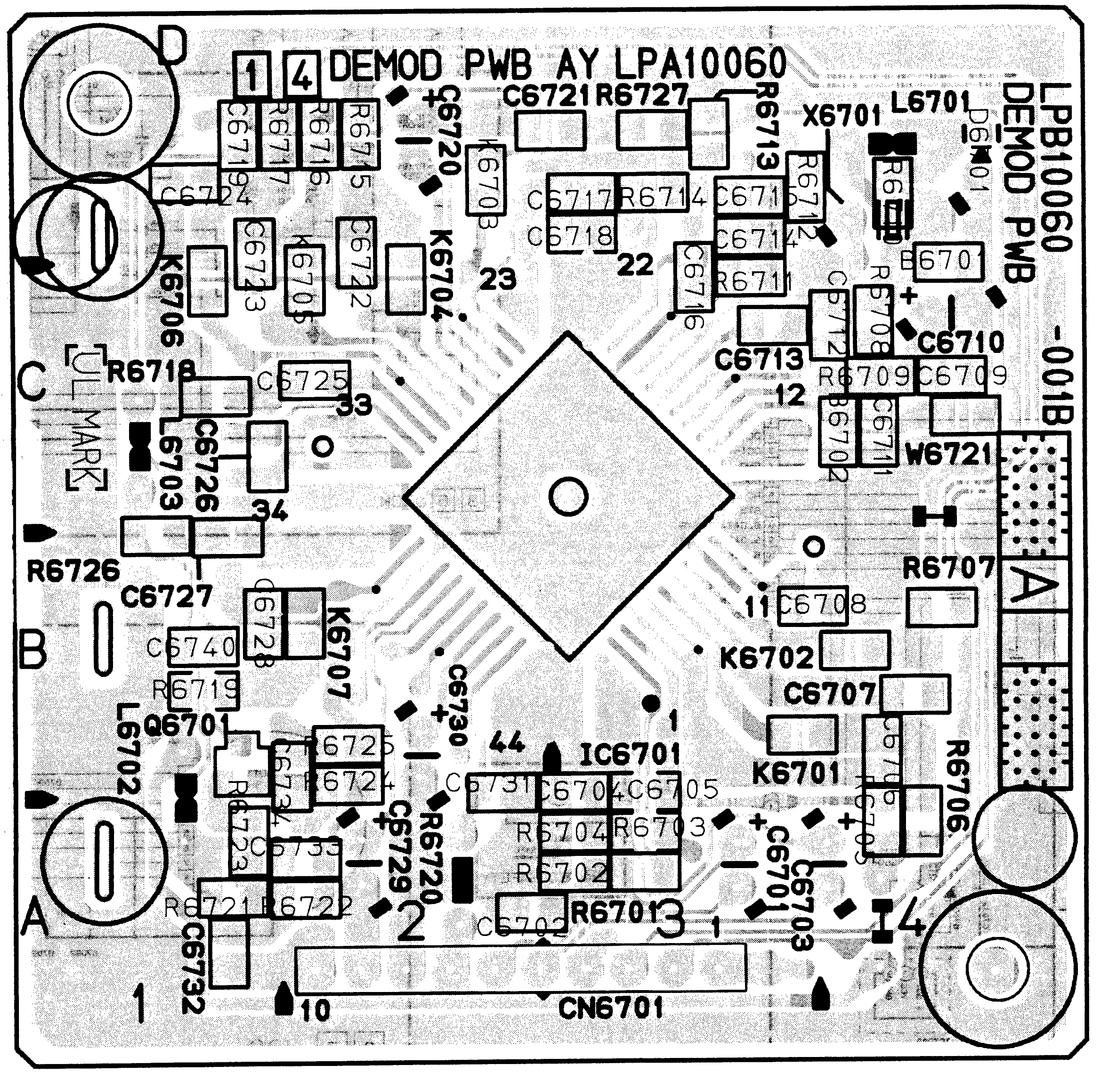
4.18 DEMODULATOR CIRCUIT BOARD


DEMOD PWB AY LPA10060
LPB10060 DEMOD PWB
-001B
A
B
C
D
1
2
3
4
C6701
C6702
C6703
C6704
C6705
C6707
C6708
C6709
C6710
C6711
C6712
C6713
C6714
C6715
C6716
C6717
C6718
C6719
C6720
C6721
C6722
C6723
C6724
C6725
C6726
C6727
C6728
C6729
C6730
C6731
C6732
C6733
C6734
C6740
R6701
R6702
R6703
R6704
R6705
R6706
R6707
R6708
R6709
R6710
R6711
R6712
R6713
R6714
R6715
R6716
R6717
R6718
R6719
R6720
R6721
R6722
R6723
R6724
R6725
R6726
R6727
K6701
K6702
K6703
K6704
K6705
K6706
K6707
L6701
L6702
L6703
D6701
X6701
Q6701
IC6701
W6721
CN6701
UL MARK
10
11
12
22
23
33
34
44

COMPONENT PARTS LOCATION GUIDE <DEMODULATOR>

REF.NO.	LOCATION		
CAPACITOR			
C6701	A	D	3A
C6702	B	C	2A
C6703	A	D	4A
C6704	B	C	3B
C6705	B	C	3B
C6706	B	C	4B
C6707	B	C	4B
C6708	B	C	3B
C6709	B	C	4C
C6710	A	D	4C
C6711	B	C	4C
C6712	B	C	4C
C6713	B	C	3C
C6714	B	C	3D
C6715	B	C	3D
C6716	B	C	3C
C6717	B	C	3D
C6718	B	C	3D
C6719	B	C	1D
C6720	A	D	2D
C6721	B	C	3D
C6722	B	C	2D
C6723	B	C	1D
C6724	B	C	1D
C6725	B	C	2C
C6726	B	C	1C
C6727	B	C	1B
C6728	B	C	1B
C6729	A	D	2A
C6730	A	D	2B
C6731	B	C	2B
C6732	B	C	1A
C6733	B	C	2A
C6734	B	C	2B
C6740	B	C	1B
CONNECTOR			
CN6701	A	D	3A
DIODE			
D6701	B	C	4D
IC			
IC6701	B	C	3C
COIL			
L6701	A	D	4D
L6702	A	D	1A
L6703	A	D	1C
TRANSISTOR			
Q6701	B	C	1B
RESISTOR			
R6701	B	C	3A
R6702	B	C	3A
R6703	B	C	3A
R6704	B	C	3A
R6705	B	C	4A
R6706	B	C	4A
R6707	B	C	4B
R6708	B	C	4C
R6709	B	C	4C
R6710	B	C	4D
R6711	B	C	3C
R6712	B	C	3D
R6713	B	C	3D
R6714	B	C	3D
R6715	B	C	2D
R6716	B	C	2D
R6717	B	C	2D
R6718	B	C	1C
R6719	B	C	1B
R6720	A	D	2A
R6721	B	C	1A
R6722	B	C	2A
R6723	B	C	1A
R6724	B	C	2B
R6725	B	C	2B
R6726	B	C	1B
R6727	B	C	3D
OTHER			
K6701	B	C	3B
K6702	B	C	4B
K6703	B	C	2D
K6704	B	C	2C
K6705	B	C	2C
K6706	B	C	1C
K6707	B	C	2B
X6701	A	D	4D

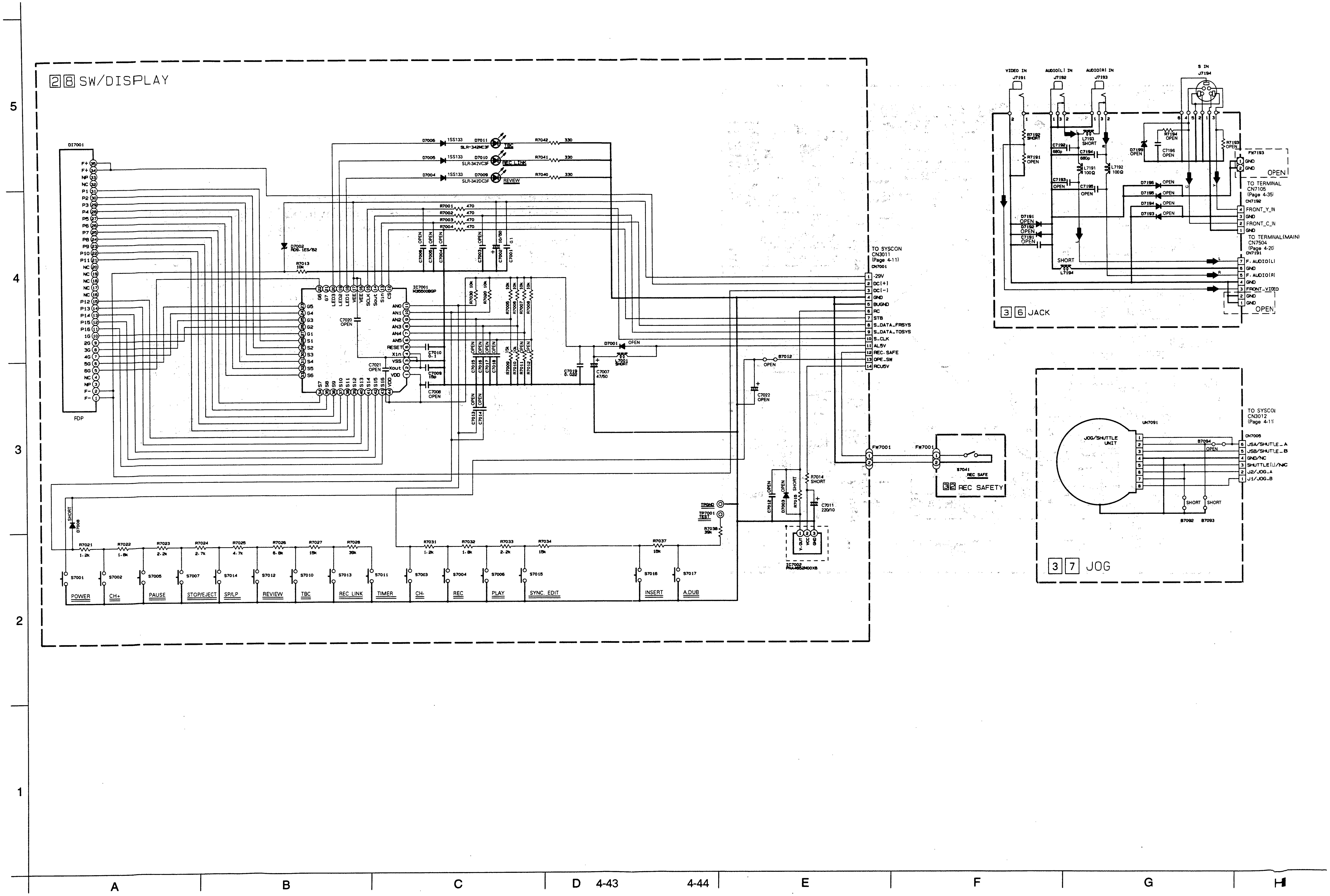
4.18 DEMODULATOR CIRCUIT BOARD


DEMOD PWB AY LPA10060
LPB10060 DEMOD PWB -001B
A
B
C
D
1
2
3
4
UL MARK
CN6701
IC6701
X6701
L6701
L6702
L6703
Q6701
D6701
W6721
K6701
K6702
K6704
K6706
K6707
C6707
C6710
C6713
C6720
C6721
C6726
C6727
C6729
C6730
C6732
C6703
C6701
R6701
R6706
R6707
R6713
R6718
R6720
R6726
R6727
1
10
11
12
22
23
33
34
44

COMPONENT PARTS LOCATION GUIDE <DEMODULATOR>

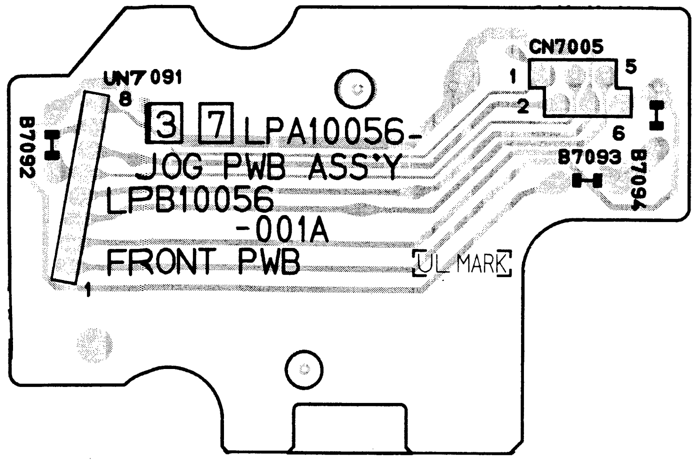
REF.NO.	LOCATION		
CAPACITOR			
C6701	A	D	3A
C6702	B	C	2A
C6703	A	D	4A
C6704	B	C	3B
C6705	B	C	3B
C6706	B	C	4B
C6707	B	C	4B
C6708	B	C	3B
C6709	B	C	4C
C6710	A	D	4C
C6711	B	C	4C
C6712	B	C	4C
C6713	B	C	3C
C6714	B	C	3D
C6715	B	C	3D
C6716	B	C	3C
C6717	B	C	3D
C6718	B	C	3D
C6719	B	C	1D
C6720	A	D	2D
C6721	B	C	3D
C6722	B	C	2D
C6723	B	C	1D
C6724	B	C	1D
C6725	B	C	2C
C6726	B	C	1C
C6727	B	C	1B
C6728	B	C	1B
C6729	A	D	2A
C6730	A	D	2B
C6731	B	C	2B
C6732	B	C	1A
C6733	B	C	2A
C6734	B	C	2B
C6740	B	C	1B
CONNECTOR			
CN6701	A	D	3A
DIODE			
D6701	B	C	4D
IC			
IC6701	B	C	3C
COIL			
L6701	A	D	4D
L6702	A	D	1A
L6703	A	D	1C
TRANSISTOR			
Q6701	B	C	1B
RESISTOR			
R6701	B	C	3A
R6702	B	C	3A
R6703	B	C	3A
R6704	B	C	3A
R6705	B	C	4A
R6706	B	C	4A
R6707	B	C	4B
R6708	B	C	4C
R6709	B	C	4C
R6710	B	C	4D
R6711	B	C	3C
R6712	B	C	3D
R6713	B	C	3D
R6714	B	C	3D
R6715	B	C	2D
R6716	B	C	2D
R6717	B	C	2D
R6718	B	C	1C
R6719	B	C	1B
R6720	A	D	2A
R6721	B	C	1A
R6722	B	C	2A
R6723	B	C	1A
R6724	B	C	2B
R6725	B	C	2B
R6726	B	C	1B
R6727	B	C	3D
OTHER			
K6701	B	C	3B
K6702	B	C	4B
K6703	B	C	2D
K6704	B	C	2C
K6705	B	C	2C
K6706	B	C	1C
K6707	B	C	2B
X6701	A	D	4D

4.19 SWITCH/DISPLAY, REC SAFETY, JACK AND JOG SCHEMATIC DIAGRAMS [HR-S8600EK]

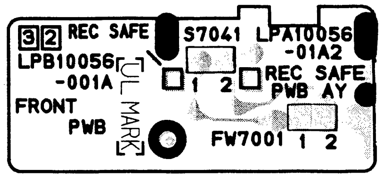

28 SW/DISPLAY
DI7001
FDP
F+ 36
F+ 34
NP 33
NC 32
P1 31
P2 30
P3 29
P4 28
P5 27
P6 26
P7 25
P8 24
P9 23
P10 22
P11 21
NC 20
NC 19
NC 18
NC 17
NC 16
P12 15
P13 14
P14 13
P15 12
P16 11
1G 10
2G 9
3G 8
4G 7
5G 6
6G 5
NC 4
NP 3
F- 2
F- 1
D7006 1SS133
D7011 SLR-342MC3F TBC
D7005 1SS133
D7010 SLR-342VC3F REC LINK
D7004 1SS133
D7009 SLR-342DC3F REVIEW
R7042 330
R7041 330
R7040 330
D7002 RD9.1ES/B2
R7013 10k
R7001 470
R7002 470
R7003 470
R7004 470
C7006 OPEN
C7005 OPEN
C7004 OPEN
C7003 OPEN
C7002 10/50
C7001 0.1
IC7001 M35500BGP
G6 G7 LED3 LED2 LED1 VEE VEE SCLK Sout Sin CS
G5 G4 G3 G2 G1 S1 S2 S3 S4 S5 S6
S7 S8 S9 S10 S11 S12 S13 S14 S15 S16 VDD
AN0 AN1 AN2 AN3 AN4 AN5 RESET Xin VSS Xout VDD
C7020 OPEN
C7021 OPEN
C7010 0.1
C7009 15p
C7008 OPEN
R7030 10k
R7020 10k
R7005 10k
R7006 10k
R7007 10k
R7008 10k
C7015 OPEN
C7016 OPEN
C7017 OPEN
C7018 OPEN
R7009 15k
R7010 10k
R7011 OPEN
R7012 OPEN
C7013 OPEN
C7014 OPEN
C7019 0.022
C7007 47/50
D7001 OPEN
L7001 SHORT
B7012 OPEN
C7022 OPEN
TO SYSCON
CN3011
(Page 4-11)
CN7001
1 -29V
2 DC(+)
3 DC(-)
4 GND
5 BUGND
6 RC
7 STB
8 S_DATA_FRSYS
9 S_DATA_TOSYS
10 S_CLK
11 AL5V
12 REC.SAFE
13 OPE_SW
14 RCU5V
FW7001
D7008 SHORT
R7021 1.2k
R7022 1.8k
R7023 2.2k
R7024 2.7k
R7025 4.7k
R7026 6.8k
R7027 15k
R7028 39k
R7031 1.2k
R7032 1.8k
R7033 2.2k
R7034 15k
R7037 15k
R7038 39k
TPGND
TP7001 TEST
S7001 POWER
S7002 CH+
S7005 PAUSE
S7007 STOP/EJECT
S7014 SP/LP
S7012 REVIEW
S7010 TBC
S7013 REC LINK
S7011 TIMER
S7003 CH-
S7004 REC
S7006 PLAY
S7015 SYNC. EDIT
S7016 INSERT
S7017 A.DUB
C7012 OPEN
D7003 OPEN
R7015 SHORT
R7014 SHORT
C7011 220/10
IC7002 PNA4652M00XB
V.OUT VCC GND
FW7001
S7041 REC SAFE
32 REC SAFETY
VIDEO IN J7191
AUDIO(L) IN J7192
AUDIO(R) IN J7193
S IN J7194
R7192 SHORT
R7191 OPEN
C7192 680p
C7194 680p
L7193 SHORT
L7191 100Ω
L7192 100Ω
C7193 OPEN
C7195 OPEN
R7194 OPEN
C7196 OPEN
D7199 OPEN
R7193 OPEN
FW7193
1 GND
2 GND
OPEN
D7196 OPEN
D7195 OPEN
D7194 OPEN
D7193 OPEN
D7191 OPEN
D7192 OPEN
C7191 OPEN
SHORT L7194
TO TERMINAL CN7105 (Page 4-35)
CN7192
4 FRONT_Y_IN
3 GND
2 FRONT_C_IN
1 GND
TO TERMINAL(MAIN) CN7504 (Page 4-20)
CN7191
7 F. AUDIO(L)
6 GND
5 F. AUDIO(R)
4 GND
3 FRONT_VIDEO
2 GND
1 GND
OPEN
36 JACK
UN7091
JOG/SHUTTLE UNIT
B7094 OPEN
B7092 SHORT
B7093 SHORT
TO SYSCON CN3012 (Page 4-11)
CN7005
6 JSA/SHUTTLE_A
5 JSB/SHUTTLE_B
4 GND/NC
3 SHUTTLE(L)/NC
2 J2/JOG_A
1 J1/JOG_B
37 JOG
5
4
3
2
1
A
B
C
D
E
F
G
H

4.20 SWITCH/DISPLAY, REC SAFETY, JACK AND JOG CIRCUIT BOARDS [HR-S8600EK]

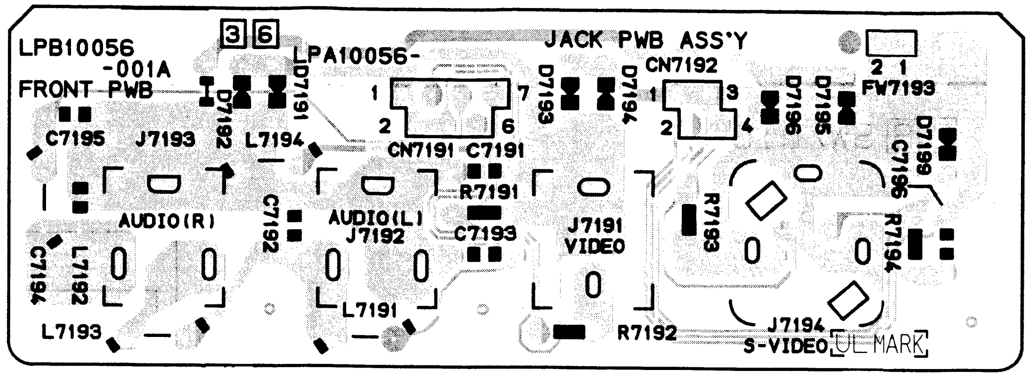
— JOG —


UN7091
8
3 7 LPA10056-
JOG PWB ASS'Y
LPB10056
-001A
FRONT PWB
UL MARK
CN7005
1
2
5
6
B7092
B7093
B7094
1

— REC SAFETY —


3 2 REC SAFE
LPB10056
-001A
FRONT
PWB
UL MARK
S7041
1 2
LPA10056
-01A2
REC SAFE
PWB AY
FW7001 1 2

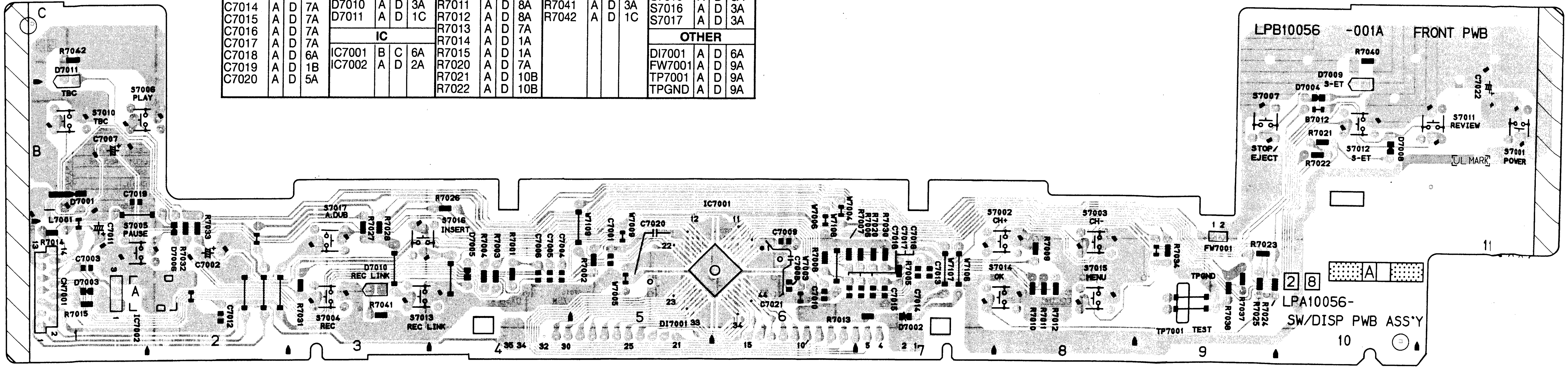
— JACK —


LPB10056
-001A
FRONT PWB
3 6
LPA10056-
JACK PWB ASS'Y
CN7192
FW7193
D7191
D7192
D7193
D7194
D7195
D7196
D7199
C7196
C7195
J7193
L7194
CN7191
C7191
R7191
C7192
C7193
AUDIO(R)
AUDIO(L)
J7192
J7191
VIDEO
R7193
R7194
C7194
L7192
L7191
L7193
R7192
J7194
S-VIDEO
UL MARK

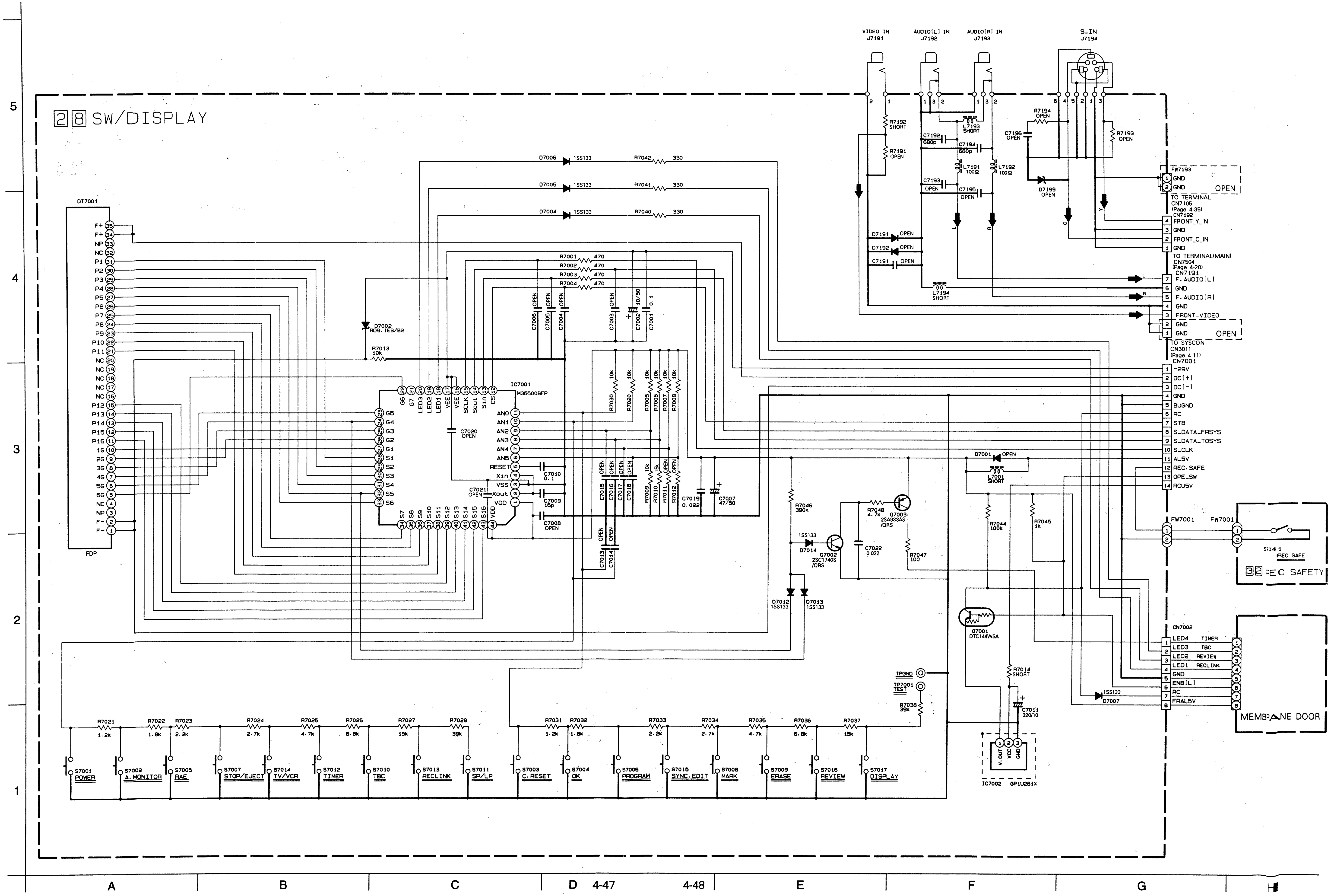
COMPONENT PARTS LOCATION GUIDE (SW/DISPLAY)

REF.NO.	LOCATION		
CAPACITOR			
C7001	A	D	5A
C7002	A	D	2A
C7003	A	D	1A
C7004	A	D	4A
C7005	A	D	4A
C7006	A	D	4A
C7007	A	D	1B
C7008	A	D	6A
C7009	A	D	6A
C7010	A	D	6A
C7011	A	D	1A
C7012	A	D	2A
C7013	A	D	7A
C7014	A	D	7A
C7015	A	D	7A
C7016	A	D	7A
C7017	A	D	7A
C7018	A	D	6A
C7019	A	D	1B
C7020	A	D	5A
C7021	A	D	6A
C7022	A	D	11B
CONNECTOR			
CN7001	A	D	1A
DIODE			
D7001	A	D	1B
D7002	A	D	7A
D7003	A	D	1A
D7004	A	D	10B
D7005	A	D	4A
D7006	A	D	2A
D7008	A	D	10B
D7010	A	D	3A
D7011	A	D	1C
IC			
IC7001	B	C	6A
IC7002	A	D	2A
COIL			
L7001	A	D	1B
RESISTOR			
R7001	A	D	4A
R7002	A	D	5A
R7003	A	D	4A
R7004	A	D	4A
R7005	A	D	7A
R7006	A	D	7A
R7007	A	D	6A
R7008	A	D	6A
R7009	A	D	8A
R7010	A	D	8A
R7011	A	D	8A
R7012	A	D	8A
R7013	A	D	7A
R7014	A	D	1A
R7015	A	D	1A
R7020	A	D	7A
R7021	A	D	10B
R7022	A	D	10B
R7023	A	D	9A
R7024	A	D	9A
R7025	A	D	9A
R7026	A	D	4B
R7027	A	D	3B
R7028	A	D	3A
R7030	A	D	7A
R7031	A	D	3A
R7032	A	D	2A
R7033	A	D	2B
R7034	A	D	9A
R7037	A	D	9A
R7038	A	D	9A
R7040	A	D	10C
R7041	A	D	3A
R7042	A	D	1C
SWITCH			
S7001	A	D	11B
S7002	A	D	8A
S7003	A	D	8A
S7004	A	D	3A
S7005	A	D	1A
S7006	A	D	1B
S7007	A	D	9B
S7010	A	D	1B
S7011	A	D	11B
S7012	A	D	10B
S7013	A	D	3A
S7014	A	D	8A
S7015	A	D	8A
S7016	A	D	3A
S7017	A	D	3A
OTHER			
DI7001	A	D	6A
FW7001	A	D	9A
TP7001	A	D	9A
TPGND	A	D	9A

— SWITCH/DISPLAY —


C
B
A
R7042
D7011
TBC
S7006
PLAY
S7010
TBC
C7007
C7019
D7001
L7001
C7011
S7005
PAUSE
R7014
C7003
D7003
CN7001
R7015
IC7002
R7033
R7032
D7006
C7002
C7012
S7017
A.DUB
R7027
R7028
D7010
REC LINK
R7041
R7031
S7004
REC
S7013
REC LINK
R7026
S7016
INSERT
IC7001
C7020
C7009
DI7001
C7021
R7013
D7002
S7002
CH+
S7003
CH-
S7014
OK
S7015
MENU
FW7001
R7023
TPGND
TP7001
TEST
R7034
R7036
R7037
R7024
R7025
LPB10056 -001A FRONT PWB
R7040
D7009
D7004
S-ET
S7007
STOP/
EJECT
R7012
R7021
R7022
S7012
S-ET
D7008
S7011
REVIEW
C7022
S7001
POWER
UL MARK
2 8
A
LPA10056-
SW/DISP PWB ASS'Y
1
2
3
4
5
6
7
8
9
10
11

4.21 SWITCH/DISPLAY AND REC SAFETY SCHEMATIC DIAGRAMS [HR-S9600EK]

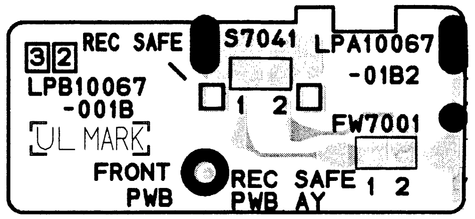

28 SW/DISPLAY
32 REC SAFETY
DI7001
FDP
F+ 35
F+ 34
NP 33
NC 32
P1 31
P2 30
P3 29
P4 28
P5 27
P6 26
P7 25
P8 24
P9 23
P10 22
P11 21
NC 20
NC 19
NC 18
NC 17
NC 16
P12 15
P13 14
P14 13
P15 12
P16 11
1G 10
2G 9
3G 8
4G 7
5G 6
6G 5
NC 4
NP 3
F- 2
F- 1
IC7001
M35500BFP
G6 22
G7 21
LED3 20
LED2 19
LED1 18
VEE 17
VEE 16
SCLK 15
Sout 14
Sin 13
CS 12
G5 23
G4 24
G3 25
G2 26
G1 27
S1 28
S2 29
S3 30
S4 31
S5 32
S6 33
S7 34
S8 35
S9 36
S10 37
S11 38
S12 39
S13 40
S14 41
S15 42
S16 43
VDD 44
AN0 11
AN1 10
AN2 9
AN3 8
AN4 7
AN5 6
RESET 5
Xin 4
VSS 3
Xout 2
VDD 1
D7006 1SS133
D7005 1SS133
D7004 1SS133
R7042 330
R7041 330
R7040 330
R7001 470
R7002 470
R7003 470
R7004 470
C7006 OPEN
C7005 OPEN
C7004 OPEN
C7003 OPEN
C7002 10/50
C7001 0.1
D7002 RD9.1ES/B2
R7013 10k
C7020 OPEN
C7021 OPEN
C7010 0.1
C7009 15p
C7008 OPEN
R7030 10k
R7020 10k
R7005 10k
R7006 10k
R7007 10k
R7008 10k
C7015 OPEN
C7016 OPEN
C7017 OPEN
C7018 OPEN
R7009 10k
R7010 15k
R7011 OPEN
R7012 OPEN
C7019 0.022
C7007 47/50
C7013 OPEN
C7014 OPEN
R7046 390k
1SS133 D7014
Q7002 2SC1740S /QRS
R7048 4.7k
Q7003 2SA933AS /QRS
C7022 0.022
R7047 100
D7012 1SS133
D7013 1SS133
D7001 OPEN
L7001 SHORT
R7044 100k
R7045 1k
Q7001 DTC144WSA
R7014 SHORT
C7011 220/10
IC7002 GP1U281X
V.OUT 1
VCC 2
GND 3
TPGND
TP7001 TEST
R7038 39k
VIDEO IN J7191
AUDIO[L] IN J7192
AUDIO[R] IN J7193
S_IN J7194
R7192 SHORT
R7191 OPEN
C7192 680p
C7194 680p
L7193 SHORT
L7191 100Ω
L7192 100Ω
C7193 OPEN
C7195 OPEN
R7194 OPEN
C7196 OPEN
R7193 OPEN
D7199 OPEN
D7191 OPEN
D7192 OPEN
C7191 OPEN
L7194 SHORT
FW7193
1 GND
2 GND OPEN
TO TERMINAL CN7105 (Page 4-35) CN7192
4 FRONT_Y_IN
3 GND
2 FRONT_C_IN
1 GND
TO TERMINAL(MAIN) CN7504 (Page 4-20) CN7191
7 F.AUDIO[L]
6 GND
5 F.AUDIO[R]
4 GND
3 FRONT_VIDEO
2 GND
1 GND OPEN
TO SYSCON CN3011 (Page 4-11) CN7001
1 -29V
2 DC[+]
3 DC[-]
4 GND
5 BUGND
6 RC
7 STB
8 S_DATA_FRSYS
9 S_DATA_TOSYS
10 S_CLK
11 AL5V
12 REC.SAFE
13 OPE_SW
14 RCU5V
FW7001
FW7001
S7041 REC SAFE
CN7002
1 LED4 TIMER
2 LED3 TBC
3 LED2 REVIEW
4 LED1 RECLINK
5 GND
6 ENB[L]
7 RC
8 FRAL5V
1SS133 D7007
MEMBRANE DOOR
R7021 1.2k
R7022 1.8k
R7023 2.2k
R7024 2.7k
R7025 4.7k
R7026 6.8k
R7027 15k
R7028 39k
R7031 1.2k
R7032 1.8k
R7033 2.2k
R7034 2.7k
R7035 4.7k
R7036 6.8k
R7037 15k
S7001 POWER
S7002 A.MONITOR
S7005 RAE
S7007 STOP/EJECT
S7014 TV/VCR
S7012 TIMER
S7010 TBC
S7013 RECLINK
S7011 SP/LP
S7003 C.RESET
S7004 OK
S7006 PROGRAM
S7015 SYNC.EDIT
S7008 MARK
S7009 ERASE
S7016 REVIEW
S7017 DISPLAY
1
2
3
4
5
A
B
C
D
E
F
G
H

4.22 SWITCH/DISPLAY AND REC SAFETY CIRCUIT BOARDS [HR-S9600EK]

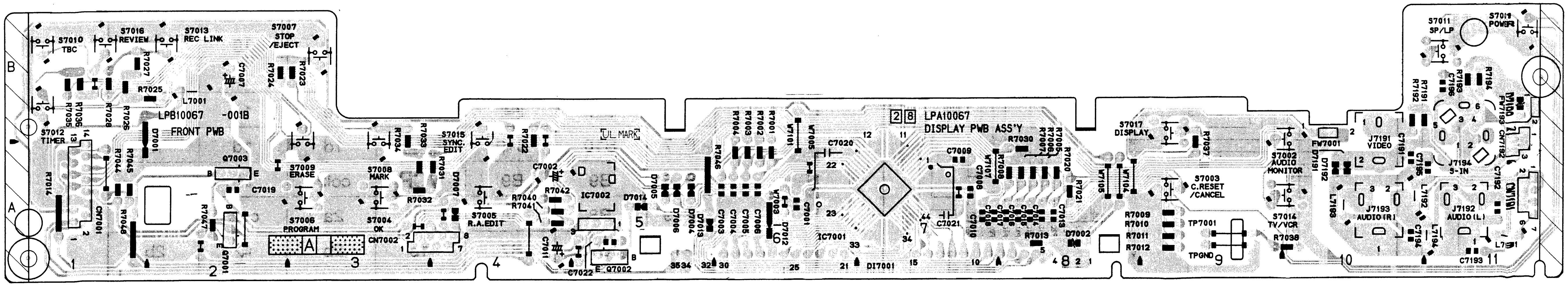
COMPONENT PARTS LOCATION GUIDE (SW/DISPLAY)

REF.NO.	LOCATION		
CAPACITOR			
C7001	A	D	6A
C7002	A	D	4A
C7003	A	D	6A
C7004	A	D	6A
C7005	A	D	6A
C7006	A	D	6A
C7007	A	D	2B
C7008	A	D	7A
C7009	A	D	7A
C7010	A	D	7A
C7011	A	D	4A
C7013	A	D	8A
C7014	A	D	8A
C7015	A	D	8A
C7016	A	D	8A
C7017	A	D	8A
C7018	A	D	7A
C7019	A	D	2A
C7020	A	D	6A
C7021	A	D	7A
C7022	A	D	5A
C7191	A	D	10A
C7192	A	D	11A
C7193	A	D	11A
C7194	A	D	10A
C7195	A	D	11A
C7196	A	D	11B
CONNECTOR			
CN7001	A	D	1A
CN7002	A	D	3A
CN7191	A	D	11A
CN7192	A	D	11B
DIODE			
D7001	A	D	1B
D7004	A	D	5A
D7005	A	D	5A
D7006	A	D	5A
D7007	A	D	4A
D7012	A	D	6A
D7013	A	D	5A
D7014	A	D	5A
D7191	A	D	10A
D7192	A	D	10A
D7199	A	D	11B
IC			
IC7001	B	C	7A
IC7002	A	D	5A
JACK			
J7191	A	D	10B
J7192	A	D	11A
J7193	A	D	10A
J7194	A	D	11B
COIL			
L7001	A	D	2B
L7191	A	D	11A
L7192	A	D	10A
L7193	A	D	10A
L7194	A	D	11A
TRANSISTOR			
Q7001	A	D	2A
Q7002	A	D	5A
Q7003	A	D	2A
RESISTOR			
R7001	A	D	6A
R7002	A	D	6A
R7003	A	D	6A
R7004	A	D	6A
R7005	A	D	8A
R7006	A	D	8A
R7007	A	D	8A
R7008	A	D	8A
R7009	A	D	9A
R7010	A	D	9A
R7011	A	D	9A
R7012	A	D	9A
R7013	A	D	8A
R7014	A	D	1A
R7020	A	D	8A
R7021	A	D	8A
R7022	A	D	4B
R7023	A	D	3B
R7024	A	D	2B
R7025	A	D	2B
R7026	A	D	1B
R7027	A	D	1B
R7028	A	D	1B
R7030	A	D	8A
R7031	A	D	4A
R7032	A	D	3A
R7033	A	D	3A
R7034	A	D	3A
R7035	A	D	1B
R7036	A	D	1B
R7037	A	D	9A
R7038	A	D	9A
R7040	A	D	4A
R7041	A	D	4A
R7042	A	D	4A
R7044	A	D	1A
R7045	A	D	1A
R7046	A	D	5A
R7047	A	D	2A
R7048	A	D	1A
R7191	A	D	11B
R7192	A	D	10B
R7193	A	D	11B
R7194	A	D	11B
SWITCH			
S7001	A	D	11B
S7002	A	D	10A
S7003	A	D	9A
S7004	A	D	3A
S7005	A	D	4A
S7006	A	D	3A
S7007	A	D	3B
S7008	A	D	3A
S7009	A	D	3A
S7010	A	D	1B
S7011	A	D	11B
S7012	A	D	1B
S7013	A	D	2B
S7014	A	D	10A
S7015	A	D	4A
S7016	A	D	1B
S7017	A	D	9B
OTHER			
DI7001	A	D	7A
D7002	A	D	8A
FW7001	A	D	10B
FW7193	A	D	11B
TP7001	A	D	9A
TPGND	A	D	9A

— REC SAFETY —


3 2
REC SAFE
LPB10067
-001B
UL MARK
FRONT PWB
S7041
1 2
LPA10067
-01B2
FW7001
REC SAFE 1 2
PWB AY

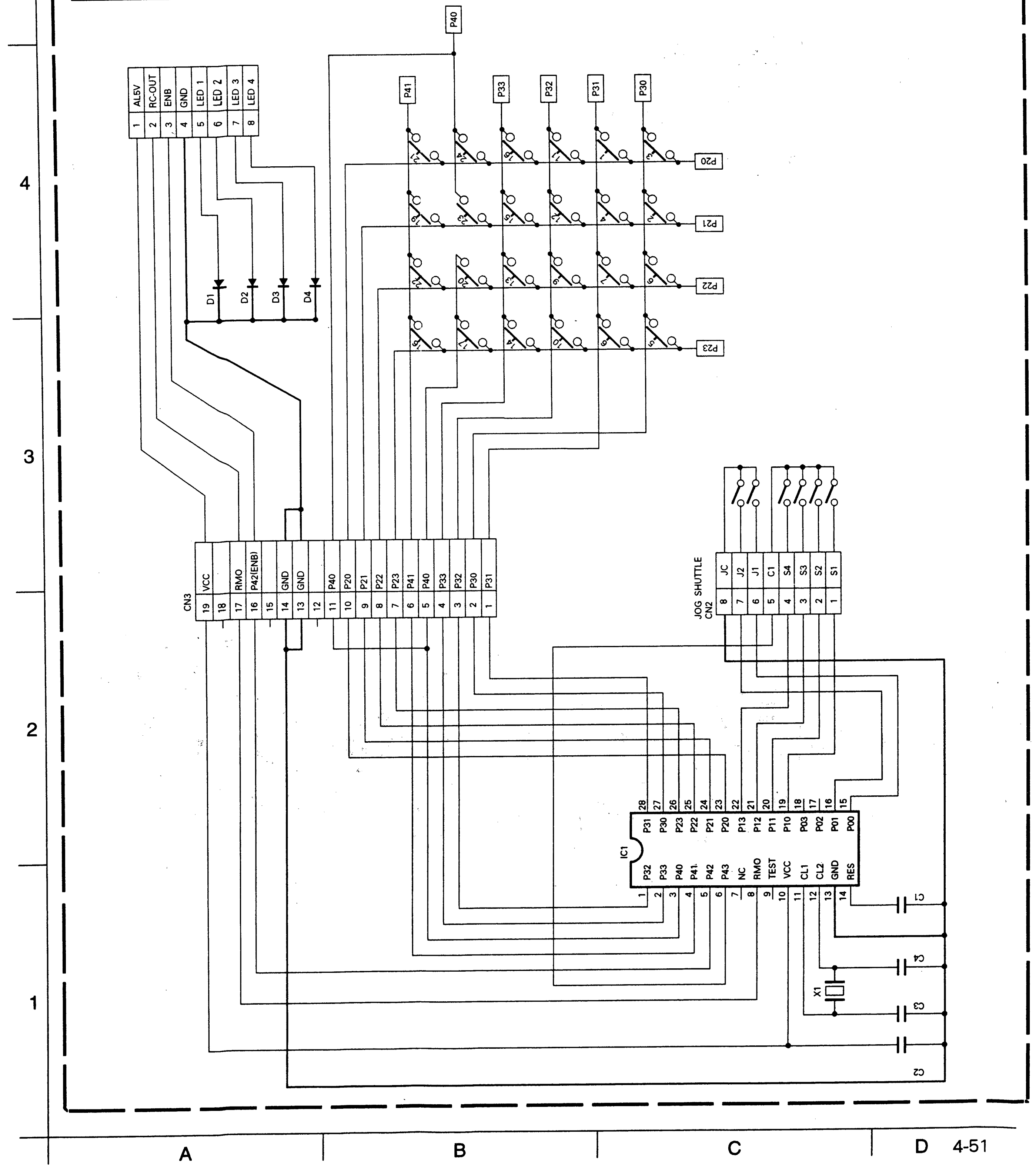
— SWITCH/DISPLAY —


S7010 TBC
S7016 REVIEW
S7013 REC LINK
S7007 STOP /EJECT
S7012 TIMER
LPB10067 -001B
FRONT PWB
L7001
Q7003
S7009 ERASE
C7019
S7006 PROGRAM
S7008 MARK
S7004 OK
CN7002
CN7001
Q7001
S7015 SYNC. EDIT
S7005 R.A.EDIT
IC7002
Q7002
UL MARK
2 8 LPA10067
DISPLAY PWB ASS'Y
IC7001
DI7001
D7002
S7017 DISPLAY
S7003 C.RESET /CANCEL
S7002 AUDIO MONITOR
S7014 TV/VCR
TP7001
TPGND
FW7001
J7191 VIDEO
J7194 S-IN
J7193 AUDIO(R)
J7192 AUDIO(L)
S7011 SP/LP
S7001 POWER
A
B
1
2
3
4
5
6
7
8
9
10
11

4.23 MEMBRANE DOOR SCHEMATIC DIAGRAM [HR-S9600EK]

NOTES:
1. All parts shown in this schematic are critical for safety.
2. This schematic is only for reference.
Avoid replacing individual parts.
Replace the entire unit only.

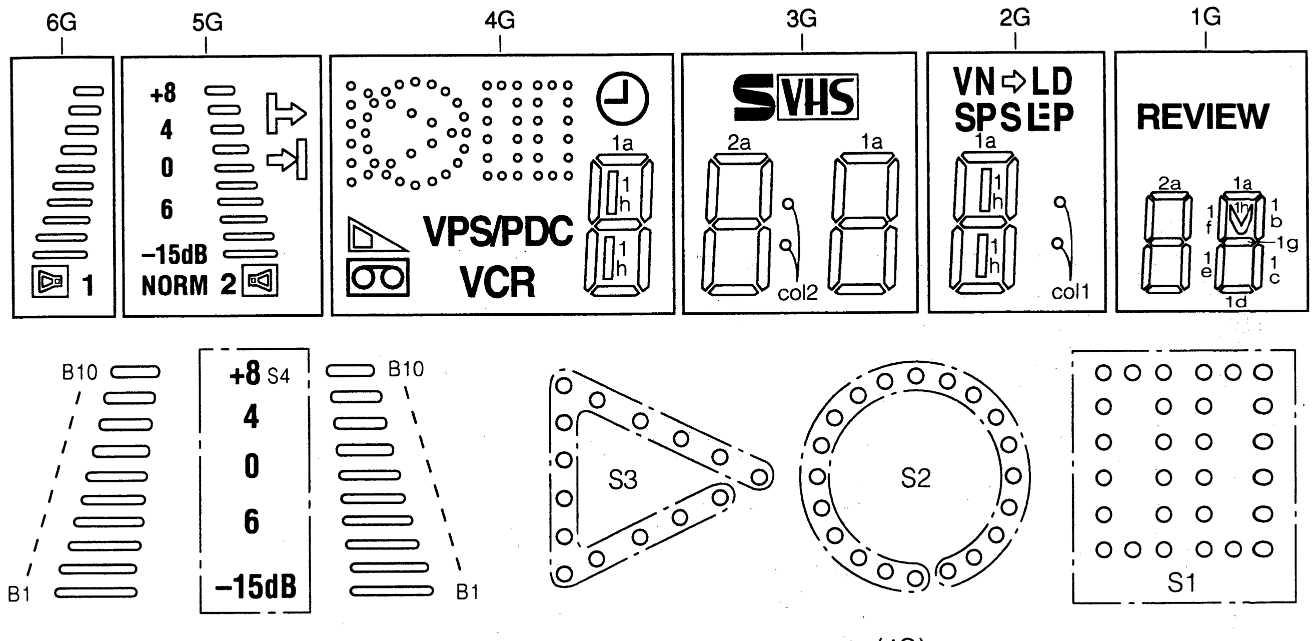
Key No.	Key Name
1	DAILY
2	WEEKLY
3	VPS/PDC
4	PROG
5	PROG CHECK
6	OK
7	START+
8	START−
9	STOP+
10	STOP−
11	DATE+
12	DATE−
13	TV PROG(CH)+
14	TV PROG(CH)−
15	STOP
16	REW
17	PLAY
18	FF
19	PAUSE
20	INSERT
21	A.DUB
22	REC
23	<<
24	>>
2+3	REC PAUSE
9+10	TRACKING ON/OFF



5
4
3
2
1
A
B
C
D
P40
P41
P33
P32
P31
P30
P20
P21
P22
P23
AL5V
RC-OUT
ENB
GND
LED 1
LED 2
LED 3
LED 4
D1
D2
D3
D4
CN3
VCC
RMO
P42(ENB)
GND
JOG SHUTTLE
CN2
JC
J2
J1
C1
S4
S3
S2
S1
IC1
P31 P30 P23 P22 P21 P20 P13 P12 P11 P10 P03 P02 P01 P00
P32 P33 P40 P41 P42 P43 NC RMO TEST VCC CL1 CL2 GND RES
X1
C1
C2
C3
C4

4.24 FDP GRID ASSIGNMENT AND ANODE CONNECTION

GRID ASSIGNMENT



6G
5G
4G
3G
2G
1G
+8
4
0
6
−15dB
NORM
1
2
VPS/PDC
VCR
1a
1h
2a
col2
VN⇨LD
SPS:LP
col1
REVIEW
1f
1b
1g
1e
1c
1d
B10
B1
S4
S3
S2
S1

(6G, 5G)

(4G)

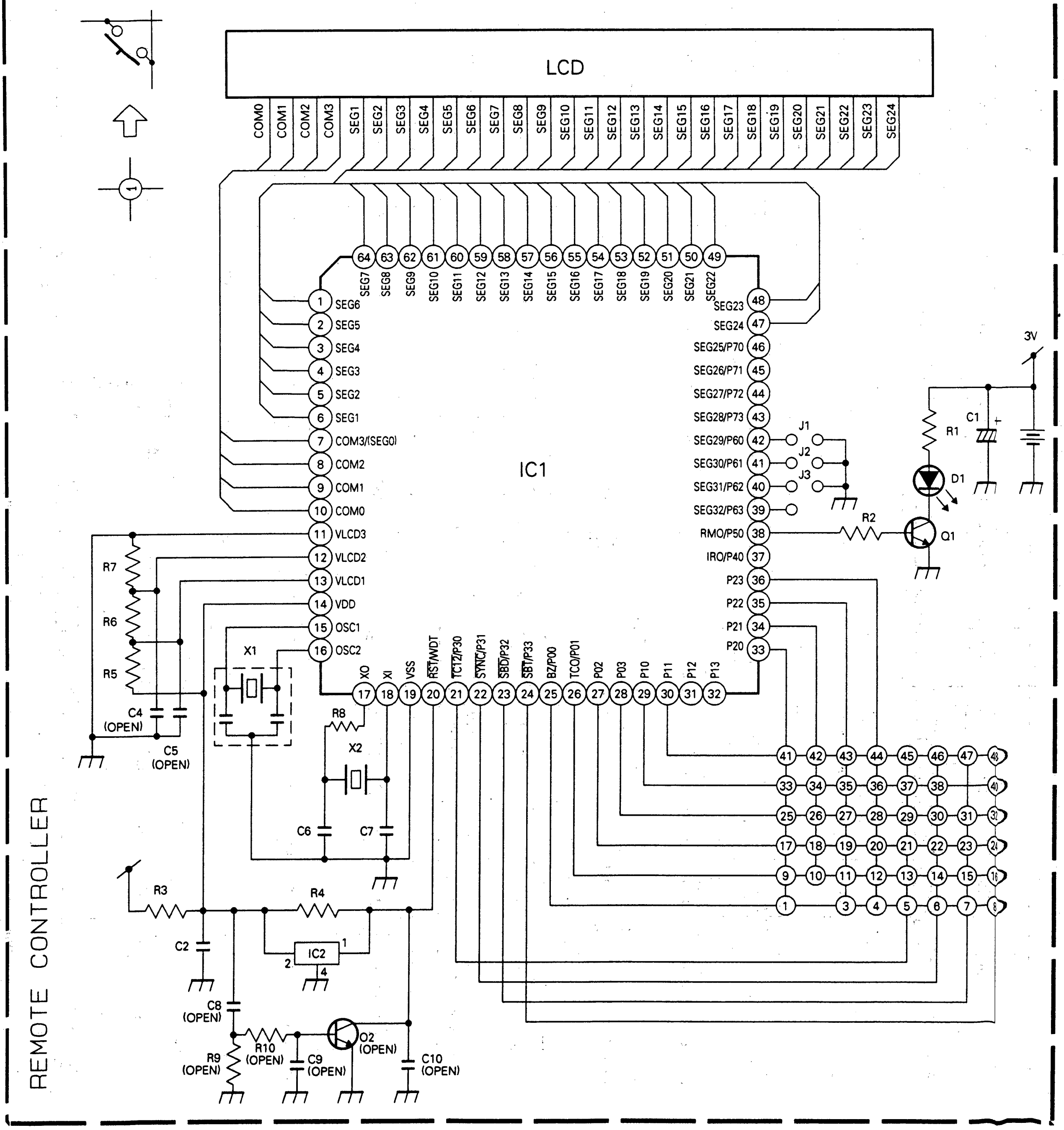
ANODE CONNECTION

	6G	5G	4G	3G	2G	1G
P 1	—	⊢⇨	S2	1a	1a	1a
P 2	—	⇨|	S1	1b	1b	1b
P 3	—	S4	S3	1f	1f	1f
P 4	—	NORM	**VPS/PDC**	1g	1g	1g
P 5	**1**	**2**	◷	1c	1c	1c
P 6	▣	▣	◺	1e	1e	1e
P 7	B10	B10	▭	1d	1d	1d
P 8	B9	B9	**VCR**	col2	1h	1h
P 9	B8	B8	1a	2a	col1	2a
P10	B7	B7	1b	2b	⇨	2b
P11	B6	B6	1f	2f	**VN**	2f
P12	B5	B5	1g	2g	**LD**	2g
P13	B4	B4	1c	2c	**SP**	2c
P14	B3	B3	1e	2e	**S** (SEP)	2e
P15	B2	B2	1d	2d	**:** (SEP)	2d
P16	B1	B1	1h	**SVHS**	**LP**(SEP)	**REVIEW**

4.25 REMOTE CONTROL SCHEMATIC DIAGRAM

NOTES:
1. All parts shown in this schematic are critical for safety.
2. This schematic is only for reference.
Avoid replacing individual parts.
Replace the entire unit only.

KEY No.	KEY NAME
1	DATE−
3	FF
4	VCR−
5	START−
6	REW
7	PLAY
8	STOP−
9	9/WEEKLY
10	SP/LP[-/- -]
11	TRANS
12	TIMER
13	CANCEL
14	7/VPS
15	0/AUX
16	8/DAILY
17	DATE+
18	MENU
19	VCR+
20	OK
21	PROG
22	START+
23	PROG CHECK
24	STOP+
25	6
26	3
27	CM/30 SEC
28	RE-VIEW
29	1
30	4
31	2
32	5
33	▼/TV CH−
34	▲/TV CH+
35	>>/VOL+
36	PAUSE
37	REC
38	<</VOL−
40	STOP
41	CABLE/SAT
42	DISPLAY/ENTER
43	POWER
44	TV/VCR
45	PROG(G Code)
46	VCR
47	AUDIO/MUTE
48	TV
37+7	REC START
37+36	REC PAUSE


LCD
COM0
COM1
COM2
COM3
SEG1
SEG2
SEG3
SEG4
SEG5
SEG6
SEG7
SEG8
SEG9
SEG10
SEG11
SEG12
SEG13
SEG14
SEG15
SEG16
SEG17
SEG18
SEG19
SEG20
SEG21
SEG22
SEG23
SEG24
IC1
1 SEG6
2 SEG5
3 SEG4
4 SEG3
5 SEG2
6 SEG1
7 COM3/(SEG0)
8 COM2
9 COM1
10 COM0
11 VLCD3
12 VLCD2
13 VLCD1
14 VDD
15 OSC1
16 OSC2
17 XO
18 XI
19 VSS
20 RST/WDT
21 TC12/P30
22 SYNC/P31
23 SBD/P32
24 SBT/P33
25 BZ/P00
26 TCO/P01
27 P02
28 P03
29 P10
30 P11
31 P12
32 P13
33 P20
34 P21
35 P22
36 P23
37 IRO/P40
38 RMO/P50
39 SEG32/P63
40 SEG31/P62
41 SEG30/P61
42 SEG29/P60
43 SEG28/P73
44 SEG27/P72
45 SEG26/P71
46 SEG25/P70
47 SEG24
48 SEG23
49 SEG22
50 SEG21
51 SEG20
52 SEG19
53 SEG18
54 SEG17
55 SEG16
56 SEG15
57 SEG14
58 SEG13
59 SEG12
60 SEG11
61 SEG10
62 SEG9
63 SEG8
64 SEG7
J1
J2
J3
3V
R1
C1
D1
R2
Q1
R7
R6
R5
C4 (OPEN)
C5 (OPEN)
X1
R8
X2
C6
C7
R3
R4
C2
IC2
1
2
4
C8 (OPEN)
R10 (OPEN)
R9 (OPEN)
C9 (OPEN)
Q2 (OPEN)
C10 (OPEN)
REMOTE CONTROLLER
5
4
3
2
1
A
B
C
D

4.26 VOLTAGE CHARTS

<VIDEO/N.AUDIO>

MODE PIN NO.	REC	PLAY
IC1		
1	2.5	2.5
2	2.5	2.5
3	0	0
4	2.5	2.5
5	0	0
6	2.8	2.8
7	2.5	2.5
8	2.5	2.5
9	2.5	2.5
10	2.5	2.5
11	2.5	2.5
12	5.0	5.0
13	1.9	1.4
14	1.9	1.4
15	2.6	3.0
16	1.5	0.7
17	1.8	1.8
18	2.3	2.3
19	3.1	3.1
20	2.7	2.7
21	2.3	2.3
22	1.9	1.9
23	3.0	3.0
24	2.2	2.2
25	1.4	1.4
26	2.1	2.1
27	0	0
28	4.9	4.9
29	1.6	1.9
30	3.0	3.0
31	2.8	2.8
32	0	0
33	0	0
34	0	0
35	3.0	3.0
36	5.0	5.0
37	0	0
38	5.0	5.0
39	3.3	3.3
40	5.0	5.0
41	5.0	5.0
42	1.9	1.9
43	5.0	5.0
44	2.5	2.5
45	0	0
46	2.0	2.0
47	0	0
48	0	0
49	0	0
50	0.4	0.4
51	0	0
52	1.3	2.4
53	3.0	2.8
54	1.9	1.9
55	2.1	2.1
56	2.8	2.3
57	0	0
58	3.0	3.0
59	3.3	3.3
60	2.1	2.1
61	4.9	4.9
62	4.9	4.9
63	4.9	4.9
64	0	0
65	0.9	2.6
66	4.9	4.9
67	4.9	4.9
68	0	0
69	2.8	2.8
70	2.7	2.7
71	2.1	2.1
72	2.3	2.1
73	-	-
74	2.7	1.1
75	-	-
76	2.3	2.3
77	4.5	4.5
78	2.7	2.7
79	4.3	2.1
80	0	0
81	-	-
82	1.2	1.2
83	2.3	2.3
84	0	1.3
85	0	0
86	2.3	2.3
87	2.2	2.2
88	2.3	2.3
89	2.3	2.3
90	4.9	4.9
91	0	0
92	0	0
93	0	0
94	0	0
95	0.5	0.5
96	5.0	5.0
97	0.3	0
98	5.0	5.0
99	0.5	2.5
100	2.5	2.5
IC2		
1	2.7	2.7
2	0	0
3	2.7	2.7
4	4.9	0
5	2.7	2.7
6	5.0	5.0
7	2.0	2.0
8	0	0
Q1		
E	3.4	3.4
C	0	0
B	2.7	2.7
Q2		
E	0	-
C	2.1	-
B	0	-
Q6		
E	2.7	2.7
C	0	0
B	2.1	2.1
Q13		
E	1.1	1.1
C	3.9	3.9
B	1.7	1.7
Q14		
E	3.2	3.2
C	4.9	4.9
B	3.9	3.9
Q15		
E	3.8	3.8
C	0	0
B	3.2	3.2
Q16		
E	4.9	4.9
C	4.9	0
B	0.2	5.0
Q17		
E	0	0
C	0	0
B	3.0	3.0
Q18		
E	0	0
C	0	0
B	3.0	3.0
Q47		
E	4.9	4.9
C	2.3	2.3
B	2.8	2.8
Q48		
E	1.9	1.9
C	0	0
B	1.0	1.0
Q49		
E	2.1	2.1
C	4.9	4.9
B	2.8	2.8
Q55		
E	0	0
C	0	0
B	3.0	3.0
Q152		
E	5.0	2.7
C	0	0
B	4.5	2.1
Q153		
E	2.1	2.1
C	4.9	4.9
B	2.7	2.7
Q401		
E	11.5	-
C	11.5	-
B	10.8	11.5
Q402		
E	0	-
C	0	11.5
B	4.9	0
Q403		
E	0	-
C	0	-
B	4.9	-
Q404		
E	7.7	0
C	0	-
B	7.1	0
Q405		
E	10.0	0
C	0	-
B	9.5	0
Q2001		
E	-19.0	0
C	0	0
B	-25.3	0.7
Q2002		
E	-19.0	0
C	0	0
B	-24.9	0.7
Q2003		
E	5.0	5.0
C	-25.1	4.9
B	5.0	0
Q2051		
E	0	0
C	8.1	0.2
B	0	0.2
Q2052		
E	11.5	11.5
C	11.3	1.1
B	10.7	11.5
Q2053		
E	0	0
C	0	11.4
B	4.5	0
Q2054		
E	11.3	1.1
C	11.2	0
B	10.5	1.1
Q2055		
E	0	0
C	0	1.1
B	5.0	0
Q2061		
E	0	0
C	7.9	0.2
B	0	0.2
Q2062		
E	11.2	0
C	11.1	0.2
B	10.4	0
Q2063		
E	0	0
C	0	0
B	5.0	0
Q2102		
E	0	-
C	0	-
B	4.9	-
CN1		
1	0	-
2	0	-
3	0	-
4	0	-
5	2.3	-
6	2.3	-
7	2.4	-
8	2.4	-
9	2.5	-
10	2.5	0
11	2.5	0
12	0	0
13	0	0
CN101		
1	0	0
2	-	-
3	4.8	4.8
4	-	-
5	4.9	4.9
6	0	0
7	0	0
8	0	0
9	0.5	0
10	0	0
11	0	0
12	0	0
13	5.0	5.0
14	4.9	4.9
15	0	0
16	0	0
17	0.4	0.4
18	0	0
19	3.4	3.4
20	0	0
21	0	0
22	2.1	2.1
23	0	0
24	0	0
25	0	0
26	0	0
27	0	0
28	0	0
29	0	0
30	0	0
CN102		
1	1.4	1.1
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	1.4	1.1
8	1.9	1.9
9	1.3	2.3
10	5.0	5.0
11	2.4	2.4
12	2.9	2.9
13	0	0
14	0	0
15	2.3	2.3
16	0	0
17	4.9	4.9
18	4.9	4.9
19	4.9	4.9
20	5.0	5.0
21	2.3	2.3
22	0	0
23	2.3	2.3
24	0	0
25	0	0
26	2.4	2.4
27	1.8	1.8
28	0	0
29	0	0
30	0	0
CN2001		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	2.2	2.5
7	2.5	2.5
CN2002		
1	0	0
2	0	0

<ON SCREEN>

MODE PIN NO.	REC	PLAY
IC201		
1	0	0
2	2.7	2.7
3	5.0	5.0
4	0	0
5	4.7	4.7
6	2.5	2.5
7	2.5	2.5
8	5.0	5.0
9	3.0	3.0
10	4.5	4.5
11	1.2	1.2
12	5.0	5.0
13	2.9	2.9
14	2.9	2.9
15	0	0
16	1.2	1.2
17	0	0
18	5.0	5.0
19	2.3	2.3
20	0	0
21	2.3	2.3
22	0.5	0.5
23	5.0	5.0
24	2.9	2.9
25	2.5	2.5
26	5.0	5.0
27	4.7	4.7
28	3.7	3.7
29	5.0	5.0
30	5.0	5.0
Q207		
E	3.0	3.0
C	0	0

MODE PIN NO.	REC	PLAY
B	2.3	2.3
Q208		
E	2.3	2.3
C	5.0	5.0
B	3.0	3.0

<FMA>

MODE PIN NO.	REC	PLAY
IC2201		
1	2.4	2.4
2	0	0
3	2.4	2.4
4	0	0
5	0	0
6	2.5	2.5
7	2.0	2.0
8	0	0
9	0	0
10	0	0
11	0	0
12	2.0	2.0
13	0	0
14	0	0
15	0	0
16	2.5	2.5
17	0.6	0.3
18	2.5	2.5
19	2.5	2.5
20	2.5	0.1
21	2.5	0
22	2.6	0.6
23	0	0
24	2.5	0.7
25	4.9	4.9
26	2.6	0
27	0	-
28	4.2	0
29	4.4	1.8
30	4.4	1.7
31	1.0	3.0
32	2.5	2.5
33	2.5	2.5
34	0.7	0.3
35	2.5	2.5
36	0	0.2
37	1.7	1.7
38	0	0
39	0	0
40	5.0	5.0
41	0	0
42	5.0	5.0
43	4.9	4.9
44	3.2	3.2
45	0	0
46	4.8	4.8
47	2.5	2.5
48	2.5	2.5
49	3.4	2.8
50	1.3	2.9
51	0	0
52	0	0
53	4.4	4.4
54	0	0
55	0	0
56	0	0
57	4.4	4.4
58	10.0	10.0
59	4.5	4.5
60	0	0.8
61	2.5	2.5

MODE PIN NO.	REC	PLAY
62	2.4	2.4
63	4.4	4.4
64	4.5	4.5
Q2151		
E	4.9	4.9
C	5.0	5.0
B	2.1	2.1
Q2152		
E	5.0	5.0
C	4.9	4.9
B	0	0.2
Q2201		
E	0	0
C	0	0
B	0	0
Q2202		
E	0	0
C	0	0
B	0	0
Q2203		
E	5.2	5.2
C	0	0
B	5.1	5.1
Q2204		
E	0	0
C	5.1	5.1
B	0	0.2
Q2255		
E	0	0
C	0	0
B	4.2	4.2
Q2256		
E	0	0
C	4.2	4.2
B	0	0
Q2258		
E	4.5	0
C	4.4	1.7
B	0.2	5.0

<SYSTEM CONTROL>

MODE PIN NO.	REC	PLAY
IC3001		
1	2.8	2.5
2	0	0
3	1.9	2.5
4	2.5	2.5
5	2.5	2.5
6	2.6	2.6
7	2.5	2.5
8	2.5	2.5
9	5.1	5.1
10	5.1	5.1
11	0	0
12	0	0.2
13	0	1.1
14	4.6	4.6
15	5.1	5.1
16	1.3	2.9
17	0	0.7
18	0	0
19	3.4	2.8
20	0.2	0.2
21	4.1	4.1
22	4.2	0
23	0	0
24	5.0	5.0
25	0	0
26	5.1	5.1
27	5.1	5.1

MODE PIN NO.	REC	PLAY
28	5.1	5.1
29	5.1	5.1
30	0	0
31	5.1	5.1
32	0	0
33	0	0
34	0	0
35	0	0
36	0	0
37	5.0	5.0
38	1.8	1.8
39	4.5	4.5
40	0	0
41	5.1	5.1
42	4.6	4.6
43	0	0
44	0	0
45	5.1	5.1
46	5.1	0
47	0	0
48	5.1	0
49	4.9	4.9
50	4.9	4.9
51	5.1	5.1
52	1.0	1.0
53	4.5	4.5
54	-	-
55	-	-
56	0	0
57	0	0
58	5.0	5.0
59	3.0	3.0
60	0	0
61	0	0
62	0	0
63	0	0
64	-	-
65	-	-
66	5.1	5.1
67	-	-
68	0	0
69	-	-
70	5.1	5.1
71	5.1	5.1
72	5.0	5.0
73	5.1	5.1
74	0	0
75	4.7	4.7
76	4.7	4.7
77	3.1	3.1
78	5.1	0
79	0	5.1
80	0	0
81	0	0
82	5.1	5.1
83	-	-
84	0	0
85	0	0
86	4.7	4.7
87	5.1	5.1
88	4.8	0
89	0	0
90	0	0
91	3.0	3.0
92	5.0	5.0
93	5.1	5.1
94	5.1	5.1
95	5.1	5.1
96	0	0
97	5.1	5.1
98	0.2	0.2
99	0	-
100	-	-

MODE PIN NO.	REC	PLAY
101	2.5	2.5
102	1.2	1.2
103	0	0
104	0	0
105	5.1	5.1
106	5.0	5.0
107	0	0
108	1.6	1.6
109	5.1	5.1
110	0	0
111	0	0
112	2.5	2.5
IC3002		
1	5.1	5.1
2	5.0	5.0
3	0	0
IC3003		
1	0	0
2	0	0
3	0	0
4	0	0
5	4.7	4.7
6	4.7	4.7
7	0	0
8	5.1	5.1
IC3004		
1	0	0
2	12.2	12.2
3	-	0
4	0	0
5	0	0
6	12.2	12.2
7	0	0.3
8	12.2	12.2
9	0	0
IC3301		
1	5.0	-
2	5.0	-
3	0	-
4	0	5.0
5	3.0	-
6	3.0	-
7	5.0	-
8	5.0	0
9	0	-
10	0	-
11	5.0	-
12	5.0	-
13	4.7	-
14	4.7	-
15	0	-
16	0	-
17	5.0	-
18	5.0	-
19	2.2	-
20	2.3	-
21	0	-
22	0	-
23	0	-
24	0	-
25	5.0	-
26	0	-
27	0	-
28	0	-
29	0	-
30	0	-
31	5.0	0
32	5.0	0
33	0	-
34	0	-
35	0	-
36	0	-
37	0	-

MODE PIN NO.	REC	PLAY
38	0	-
39	0	-
40	0	-
41	0.5	0.7
42	2.2	-
IC3501		
1	0	-
2	12.3	-
3	3.0	0.3
4	0.8	-
5	0	-
6	12.3	-
7	3.0	0.3
8	3.5	-
9	0	-
Q3001		
E	0	0
C	12.2	12.2
B	0	0
Q3002		
E	0	0
C	4.8	4.7
Q3003		
E	0	0
C	5.0	5.0
Q3004		
E	0	0
C	0	0
B	0.7	0.7
Q3005		
E	5.1	5.1
C	5.8	5.8
B	5.7	5.7
Q3007		
E	0	0
C	0	0
B	0	0
Q3008		
E	0	0
C	4.9	4.9
B	0	0
Q3501		
E	3.4	-
C	3.5	-
B	4.1	-
Q4001		
E	0	0
C	0	0
B	5.0	5.0
CN3001		
1	11.5	11.5
2	0	0
3	1.3	1.3
4	0	0
5	1.6	1.6
CN3002		
1	0	0.4
2	0	0.4
CN3003		
1	0	0
2	2.5	2.5
3	2.5	2.5
4	5.0	5.0
5	0	0
6	5.1	5.1
7	0	0
8	11.5	11.5
CN3004		
1	5.1	5.1
2	5.1	5.1
3	0	0
4	0	0
CN3011		

MODE PIN NO.	REC	PLAY
1	5.1	5.1
2	0	0
3	5.1	5.1
4	5.1	5.1
5	4.5	4.5
6	5.1	5.1
7	1.1	1.1
8	4.3	4.5
9	5.1	5.1
10	0	0
11	0	0
12	-19.5	-19.5
13	-15.7	-15.7
14	-28.4	-28.4
CN3012		
1	0.5	0.5
2	0.5	0.5
3	0	0
4	0	0
5	0	0
6	0	0
CN3501		
1	0	-
2	0	-
3	0	-
4	5.0	-
5	0.5	-
6	0.4	-

<SW. REG>

MODE PIN NO.	REC	PLAY
IC5301		
1	5.8	5.8
2	5.0	5.0
3	4.9	4.9
4	0	0
5	12.2	12.2
6	11.5	11.5
7	12.2	12.2
8	1.2	1.2
9	1.2	1.2
10	10.8	10.8
Q5101		
S	0	0
D	160.7	157.0
G	-	-
Q5102		
E	0	0
C	-	-
B	-	-
Q5301		
E	21.0	21.0
C	11.5	11.5
B	21.0	21.0
Q5302		
E	0	0
C	20.9	21.1
B	0	0
Q5303		
E	5.2	5.2
C	5.8	5.8
B	5.8	5.8
Q5304		
E	11.5	11.5
C	12.3	12.3
B	12.2	12.2
Q5305		
E	12.2	12.2
C	12.2	12.2
B	0.6	0.6

MODE PIN NO.	REC	PLAY
Q5306		
E	12.2	12.2
C	11.5	11.5
B	10.9	10.9
Q5310		
E	0	0
C	0	0
B	4.6	4.6
Q5311		
E	32.1	32.1
C	32.1	32.1
B	31.5	31.5
Q5312		
E	-15.4	-15.4
C	-15.6	-15.6
B	-16.1	-16.1

<TUNER>

MODE PIN NO.	REC	PLAY
IC6080		
1	1.2	1.2
2	1.7	1.7
3	2.9	2.9
4	0	0
5	4.1	4.1
6	4.1	4.1
7	4.1	4.1
8	11.5	11.5
Q6030		
E	0.7	0.7
C	0	0
B	0	0
Q6031		
E	0	0
C	0	0
B	5.0	5.0
Q6032		
E	0	0
C	0	0
B	4.3	4.3
CN6701		
1	-	-
2	4.7	4.7
3	4.7	4.7
4	0	0
5	4.9	4.9
6	11.5	11.5
7	0	0
8	0	0
9	0	0
10	2.4	2.4
11	0	0
12	4.4	4.4

<C.BOX CTL>

MODE PIN NO.	REC	PLAY
IC3961		
1	0	-
2	5.0	-
3	5.0	-
4	0	-
5	5.0	-
6	5.0	-
7	5.0	0
8	5.0	-
IC3962		
1	0	-
2	5.0	-

MODE PIN NO.	REC	PLAY
3	5.0	-
4	0	-
5	5.0	-
6	5.0	-
7	0	-
8	5.0	-

<TERMINAL(MAIN)>

MODE PIN NO.	REC	PLAY
CN7501		
1	0.2	5.0
2	0	0
3	0	0
4	2.3	2.3
5	0	0
6	1.2	1.2
7	11.5	11.5
8	0.7	0.7
9	11.5	11.5
CN7502		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	4.8	4.8
8	4.7	4.7
9	5.1	5.1
10	5.1	5.1
CN7503		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	0	0
8	0	0
9	0	0
10	0	0
CN7504		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0

<VSC>

MODE PIN NO.	REC	PLAY
IC2501		
1	0	-
2	0	-
3	0	-
4	0	-
5	0	-
6	0	-
7	0	-
8	0	-
9	0	-
10	4.5	2.1
11	5.0	2.6
12	0	-
13	0	-
14	0	-
15	0	-
16	0	-
17	0	-

MODE PIN NO.	REC	PLAY
18	5.0	-
19	0	1.6
20	5.0	-
21	0	-
22	0	-
23	0	-
24	5.0	-
25	5.0	-
26	5.0	-
27	5.0	-
28	5.0	-
29	5.0	-
30	5.0	-
31	5.0	-
32	0	-
33	2.2	-
34	0.4	0.6
35	0	-
36	0	-
37	5.0	-
38	0	-
39	0	-
40	0	-
41	0	-
42	0	-
43	2.5	-
44	0	-
45	2.5	-
46	2.5	-
47	2.5	-
48	2.5	-
49	2.5	-
50	2.5	-
51	2.5	-
52	2.5	-
53	5.0	-
54	0	0.5
55	1.0	0
56	0	-
57	0	-
58	5.0	-
59	5.0	-
60	5.0	0
61	5.0	-
62	0	-
63	0	-
64	0	-
Q2501		
E	0	-
C	0	-
B	0	0.5
Q2502		
E	0	-
C	0	0.4
B	5.0	0

<3D SVHS (VIDEO)>

MODE PIN NO.	REC	PLAY
IC1001		
1	3.0	3.0
2	0	3.9
3	2.2	2.2
4	1.8	1.8
5	2.9	2.9
6	2.8	2.8
7	2.3	2.3
8	3.0	3.0
9	2.3	2.3
10	2.8	2.8
11	2.8	2.8

MODE PIN NO.	REC	PLAY
12	2.2	2.2
13	4.9	4.9
14	4.9	4.9
15	2.5	2.5
16	3.0	2.8
17	0	0
18	2.9	2.1
19	0.5	1.1
20	0	0.4
21	2.3	2.3
22	2.8	2.8
23	2.3	2.3
24	0	0
25	3.4	3.4
26	2.1	2.1
27	2.8	2.8
28	2.8	2.8
29	2.8	2.8
30	0	0
31	2.8	2.8
32	0	0
33	2.8	2.8
34	4.9	4.9
35	2.8	2.8
36	1.9	1.9
37	3.1	3.1
38	2.9	2.9
39	2.4	2.4
40	2.7	2.7
41	2.9	2.9
42	2.8	2.8
43	3.1	3.1
44	2.2	2.2
45	0	0
46	2.8	2.8
47	1.9	1.1
48	2.8	2.8
49	4.9	4.9
50	2.8	2.8
51	4.9	4.9
52	2.8	2.8
53	1.9	1.9
54	2.6	3.6
55	0	0
56	2.3	2.3
IC1002		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
9	-	-
10	-	-
11	-	-
12	-	-
13	-	-
14	-	-
15	-	-
16	-	-
17	-	-
18	-	-
IC1006		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-

MODE PIN NO.	REC	PLAY
9	-	-
10	-	-
11	2.7	2.7
12	1.5	1.5
13	0.8	0.8
14	3.3	3.3
15	3.4	3.2
16	1.3	1.3
17	4.0	4.0
18	1.1	1.1
19	4.8	4.8
20	0.7	0.7
IC1007		
1	-	-
2	-	-
3	-	-
4	-	-
5	2.2	2.2
6	2.0	2.0
7	3.7	3.7
8	4.9	4.9
Q1004		
E	-	-
C	-	-
B	-	-
Q1005		
E	0	0
C	0	0
B	2.6	2.6
Q1006		
E	3.9	3.9
C	0	0
B	3.3	3.3
Q1007		
E	1.4	1.4
C	3.5	3.5
B	2.1	2.1
Q1012		
E	2.5	2.5
C	4.9	4.9
B	3.2	3.2
Q1014		
E	0	0
C	1.2	1.2
B	0.6	0.6
Q1015		
E	0.6	0.6
C	3.2	3.2
B	1.3	1.3
Q1016		
E	-	-
C	-	-
B	-	-
Q1021		
E	3.0	3.0
C	0	0
B	2.4	2.4
Q1022		
E	0	0
C	4.4	0
B	0.3	3.9
CN1001		
1	0	0
2	-	-
3	4.8	4.8
4	-	-
5	4.9	4.9
6	0	0
7	0	0
8	0	0
9	0.5	0
10	0	0
11	0	0
12	0	0
13	5.0	5.0
14	4.9	4.9
15	0	0
16	0	0
17	0.4	0.4
18	0	0
19	3.4	3.4
20	0	0
21	0	0
22	2.1	2.1
23	0	0
24	0	0
25	0	0
26	0	0
27	0	0
28	0	0
29	0	0
30	0	0
CN1002		
1	1.4	1.1
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	1.4	1.1
8	1.9	1.9
9	1.3	2.3
10	5.0	5.0
11	2.4	2.4
12	2.9	2.9
13	0	0
14	0	0
15	2.3	2.3
16	0	0
17	4.9	4.9
18	4.9	4.9
19	4.9	4.9
20	5.0	5.0
21	2.3	2.3
22	0	0
23	2.3	2.3
24	0	0
25	0	0
26	2.4	2.4
27	1.8	1.8
28	0	0
29	0	0
30	0	0
CN1003		
1	2.1	2.1
2	0	0
3	2.3	2.3
4	0	0
5	5.7	5.7
6	0	0
7	5.6	5.6

<3D SVHS (3D/TBC)>

MODE PIN NO.	REC	PLAY
IC1401		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
9	-	-
10	-	-
11	-	-
12	-	-
13	-	-
14	-	-
15	-	-
16	-	-
17	-	-
18	-	-
19	-	-
20	-	-
21	-	-
22	-	-
23	-	-
24	-	-
25	-	-
26	-	-
27	-	-
28	-	-
29	-	-
30	-	-
31	-	-
32	-	-
33	-	-
34	-	-
35	-	-
36	-	-
37	-	-
38	-	-
39	-	-
40	-	-
41	-	-
42	-	-
43	-	-
44	-	-
45	-	-
46	-	-
47	-	-
48	-	-
49	-	-
50	-	-
51	-	-
52	-	-
53	-	-
54	-	-
55	-	-
56	-	-
57	-	-
58	-	-
59	-	-
60	-	-
61	-	-
62	-	-
63	-	-
64	-	-
65	-	-
66	-	-
67	-	-
68	-	-
69	-	-
70	-	-
71	-	-
72	-	-
73	-	-
74	-	-
75	-	-
76	-	-
77	-	-
78	-	-
79	-	-
80	-	-
81	-	-
82	-	-
83	-	-
84	-	-
85	-	-
86	-	-
87	-	-
88	-	-
89	-	-
90	-	-
91	-	-
92	-	-
93	-	-
94	-	-
95	-	-
96	-	-
97	-	-
98	-	-
99	-	-
100	-	-
Q1401		
E	-	-
C	-	-
B	-	-
Q1402		
E	-	-
C	-	-
B	-	-
Q1403		
E	-	-
C	-	-
B	-	-
Q1404		
E	-	-
C	-	-
B	-	-
Q1405		
E	-	-
C	-	-
B	-	-
Q1406		
E	-	-
C	-	-
B	-	-
Q1407		
E	-	-
C	-	-
B	-	-
Q1408		
E	-	-
C	-	-
B	-	-
Q1409		
E	-	-
C	-	-
B	-	-
Q1410		
E	-	-
C	-	-
B	-	-
Q1411		
E	-	-
C	-	-
B	-	-
Q1412		
E	-	-
C	-	-
B	-	-
Q1413		
E	-	-
C	-	-
B	-	-
Q1414		
E	-	-
C	-	-
B	-	-
Q1416		
E	-	-
C	-	-
B	-	-
Q1417		
E	-	-
C	-	-
B	-	-
Q1418		
E	-	-
C	-	-
B	-	-

<TERMINAL>

MODE PIN NO.	REC	PLAY
IC7101		
1	1.6	1.6
2	0	0
3	1.6	1.6
4	11.5	11.5
5	2.0	2.0
6	0	0
7	5.1	5.1
8	11.5	11.5
9	5.1	5.1
10	5.2	5.2
11	5.1	5.1
12	0	0
13	4.8	4.8
14	4.8	4.8
15	5.8	5.8
16	5.1	5.1
17	5.8	5.8
18	5.1	5.1
19	11.5	11.5
20	2.5	2.5
21	1.4	1.1
22	1.4	1.1
23	2.5	2.5
24	2.0	2.0
IC7102		
1	6.4	6.4
2	5.2	5.2
3	5.7	5.7
4	0	0
5	5.7	5.7
6	5.7	5.7
7	0	0
8	6.4	6.4
9	-	-
10	-	-
11	-	-
12	-	-
13	-	-
14	-	-
15	-	-
16	6.4	6.4
Q7102		
E	3.0	3.0
C	0	0
B	2.3	2.3
Q7103		
E	2.8	2.8
C	0	0
B	2.1	2.1
Q7104		
E	3.0	3.0
C	0	0
B	2.3	2.3
Q7107		
E	-	-
C	-	-
B	-	-
Q7108		
E	-	-
C	-	-
B	-	-
Q7109		
E	-	-
C	-	-
B	-	-
Q7110		
E	-	-
C	-	-
B	-	-
Q7111		
E	0	0
C	6.2	6.2
B	0	0
Q7112		
E	0.6	0.6
C	11.5	11.5
B	0	0
CN7101		
1	0.2	5.0
2	0	0
3	0	0
4	2.3	2.3
5	0	0
6	1.2	1.2
7	11.5	11.5
8	0.7	0.7
9	11.5	11.5
CN7102		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	4.8	4.8
8	4.7	4.7
9	5.1	5.1
10	5.1	5.1
CN7103		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	0	0
8	0	0
9	0	0
10	0	0
CN7104		
1	2.1	2.1
2	0	0
3	2.3	2.3
4	0	0
5	5.7	5.7
6	0	0
7	5.6	5.6
CN7105		
1	0	0
2	0	0
3	0	0
4	0	0

<DEMODULATOR>

MODE PIN NO.	REC	PLAY
IC6701		
1	2.4	2.4
2	2.4	2.4
3	4.9	4.9
4	0	0
5	0	0
6	4.8	4.8
7	0	0
8	4.8	4.8
9	0	0
10	4.7	4.7
11	0	0
12	4.8	4.8
13	0	0
14	0	0
15	3.4	3.4
16	2.4	2.4
17	0	0
18	2.2	2.2
19	0	0
20	0	0
21	4.6	4.6
22	0	0
23	2.2	2.2
24	2.2	2.2
25	2.2	2.2
26	4.8	4.8
27	0	0
28	4.8	4.8
29	4.7	4.7
30	4.8	4.8
31	0	0
32	4.7	4.7
33	4.7	4.7
34	0	0
35	4.7	4.7
36	0	0
37	4.7	4.7
38	2.4	2.4
39	2.4	2.4
40	2.4	2.4
41	2.4	2.4
42	4.7	4.7
43	4.9	4.9
44	0	0
Q6701		
E	1.9	1.9
C	4.9	4.9
B	2.6	2.6
CN6701		
1	0	0
2	4.7	4.7
3	4.7	4.7
4	4.7	4.7
5	0	0
6	0	0
7	4.9	4.9
8	0	0
9	0	0
10	0	0

<SWITCH/DISPLAY>
[HR-S8600EK]

MODE PIN NO.	REC	PLAY
IC7001		
1	4.9	4.9
2	2.2	2.2
3	0	0
4	2.2	2.2
5	4.9	4.9
6	4.9	4.9
7	4.9	4.9
8	4.9	4.9
9	4.9	4.9
10	4.9	4.9
11	4.9	4.9
12	4.7	4.7
13	0.8	0.8
14	4.9	5.0
15	4.5	4.5
16	-28.0	-27.9
17	-28.0	-27.9
18	-27.8	-27.6
19	-27.8	-27.7
20	4.7	4.6
21	-23.7	-23.5
22	-	-
23	-	-
24	-	-
25	-	-
26	-	-
27	-	-
28	-	-
29	-	-
30	-	-
31	-	-
32	-	-
33	-	-
34	-	-
35	-	-
36	-	-
37	-	-
38	-	-
39	-	-
40	-	-
41	-	-
42	-	-
43	-	-
44	4.9	4.9
IC7002		
1	5.1	5.1
2	5.1	5.1
3	0	0
CN7001		
1	-28.3	-28.1
2	-15.4	-15.2
3	-19.4	-19.1
4	0	0
5	0	0
6	5.1	5.1
7	4.7	4.7
8	0.8	0.8
9	5.0	5.0
10	4.5	4.5
11	5.0	5.0
12	5.0	5.0
13	0	0
14	5.1	5.1
FW7001		
1	4.9	4.9
2	0	0

<SWITCH/DISPLAY>
[HR-S9600EK]

MODE PIN NO.	REC	PLAY
IC7001		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
9	-	-
10	-	-
11	-	-
12	-	-
13	-	-
14	-	-
15	-	-
16	-	-
17	-	-
18	-	-
19	-	-
20	-	-
21	-	-
22	-	-
23	-	-
24	-	-
25	-	-
26	-	-
27	-	-
28	-	-
29	-	-
30	-	-
31	-	-
32	-	-
33	-	-
34	-	-
35	-	-
36	-	-
37	-	-
38	-	-
39	-	-
40	-	-
41	-	-
42	-	-
43	-	-
44	-	-
IC7002		
1	-	-
2	-	-
3	-	-
Q7001		
E	-	-
C	-	-
B	-	-
Q7002		
E	-	-
C	-	-
B	-	-
Q7003		
E	-	-
C	-	-
B	-	-
CN7001		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
9	-	-
10	-	-
11	-	-
12	-	-
13	-	-
14	-	-
CN7002		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
CN7191		
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
CN7192		
1	-	-
2	-	-
3	-	-
4	-	-
FW7001		
1	4.9	4.9
2	0	0

<REC SAFETY>
[HR-S9600EK]

MODE PIN NO.	REC	PLAY
FW7001		
1	4.9	4.9
2	0	0

<JOG>
[HR-S8600EK]

MODE PIN NO.	REC	PLAY
CN7005		
1	0	0
2	5.0	5.0
3	0	0
4	0	0
5	5.0	4.8
6	5.0	0

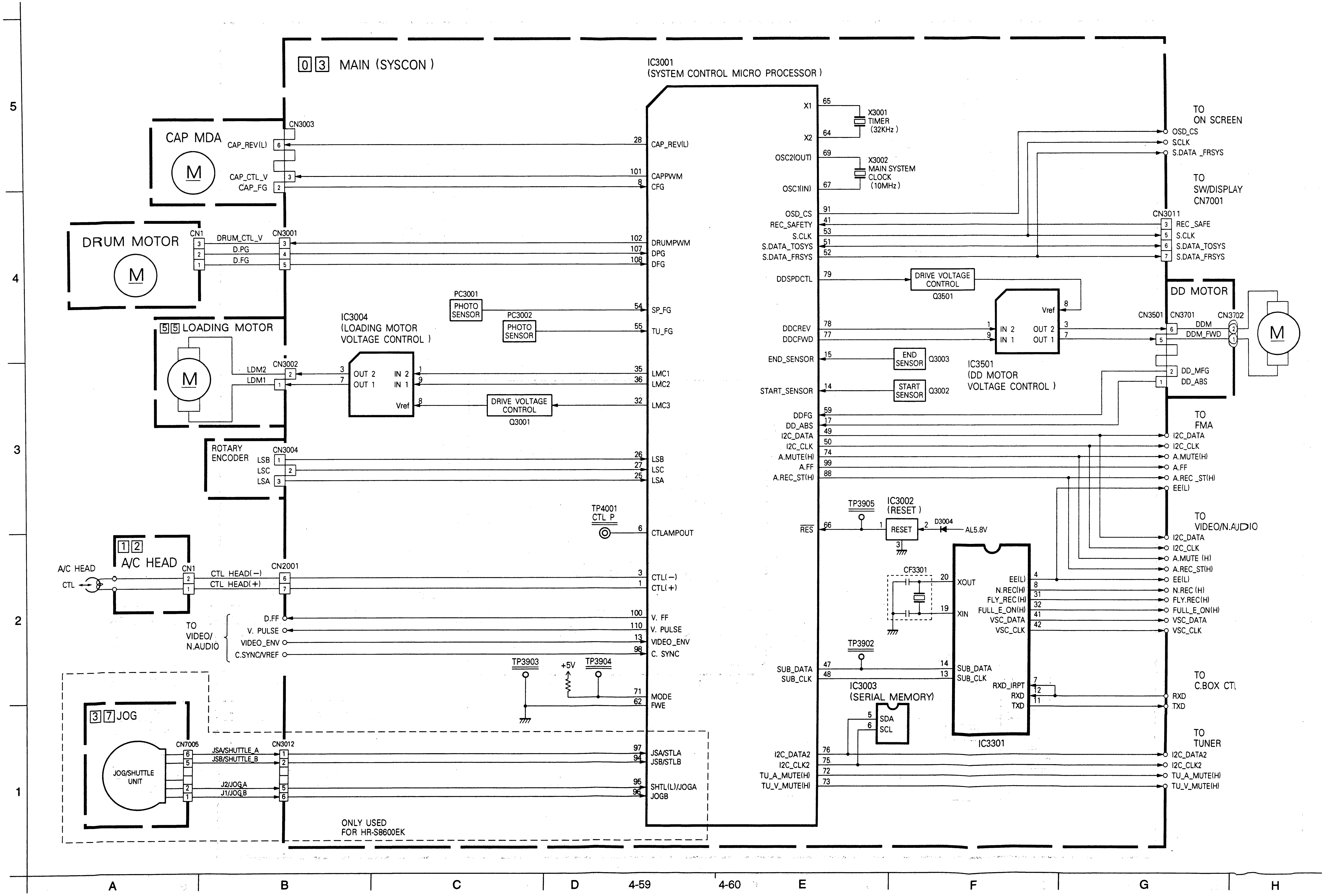
<JACK>
[HR-S8600EK]

MODE PIN NO.	REC	PLAY
CN7191		
3	0	0
4	0	0
5	0	0
6	0	0
7	0	0
CN7192		
1	0	0
2	0	0
3	0	0
4	0	0

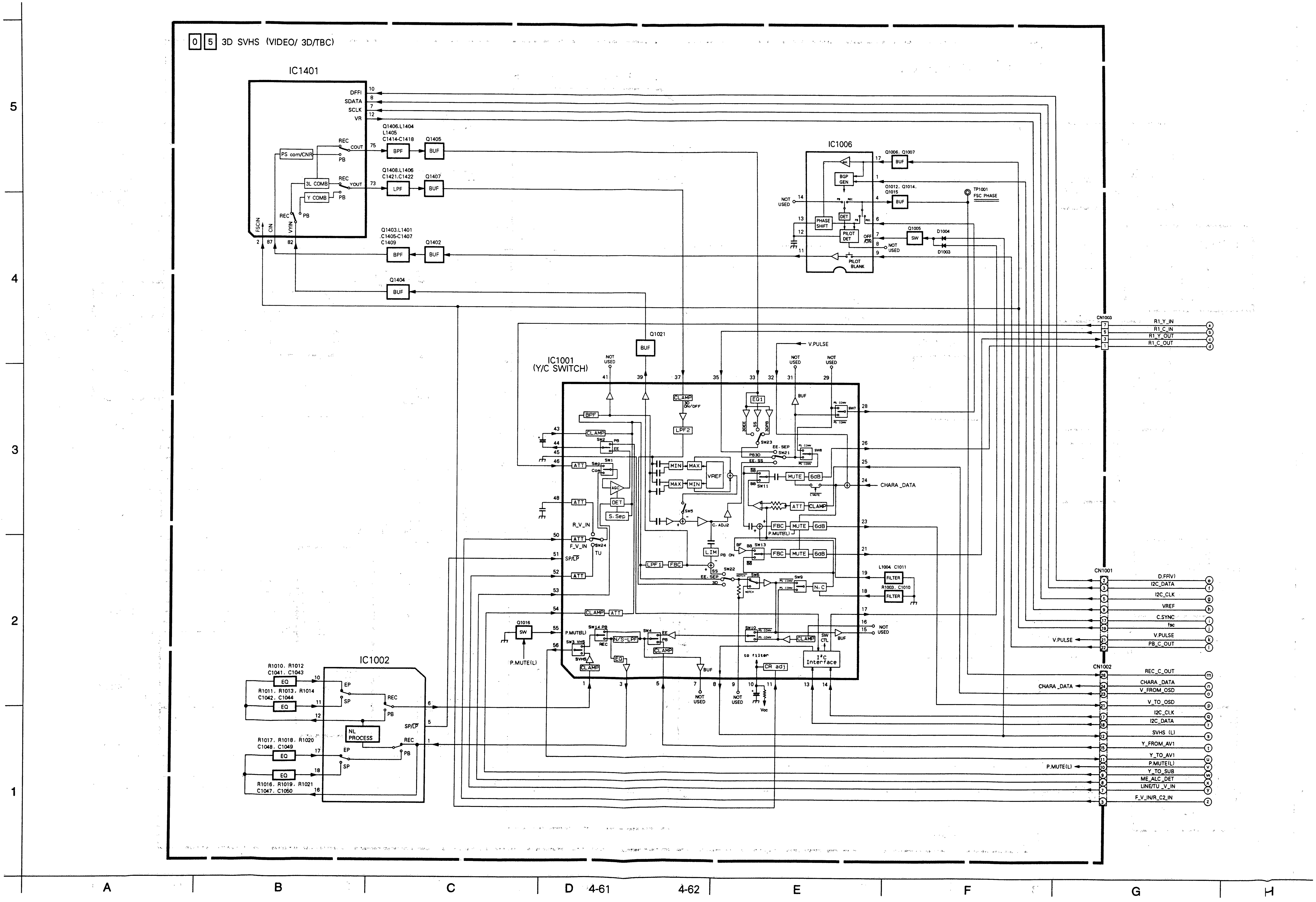
<REC SAFETY>
[HR-S8600EK]

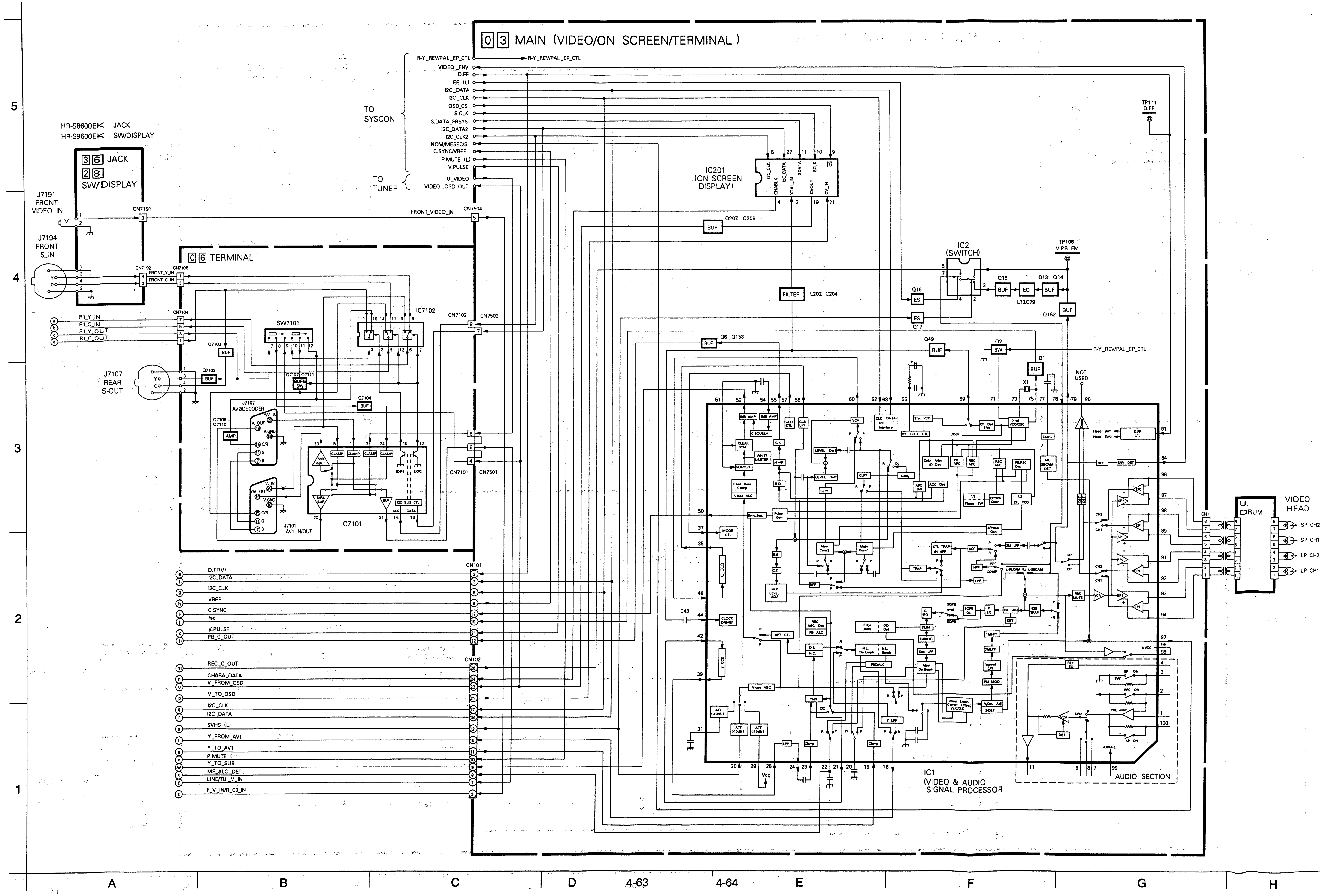
MODE PIN NO.	REC	PLAY
FW7001		
1	4.9	4.9
2	0	0

4.27 SYSTEM CONTROL BLOCK DIAGRAM


0 3 MAIN (SYSCON)
IC3001
(SYSTEM CONTROL MICRO PROCESSOR)
CAP MDA
CN3003
CAP_REV(L)
CAP_CTL_V
CAP_FG
M
28 CAP_REV(L)
101 CAPPWM
8 CFG
DRUM MOTOR
CN1
CN3001
DRUM_CTL_V
D.PG
D.FG
102 DRUMPWM
107 DPG
108 DFG
PC3001
PHOTO SENSOR
PC3002
PHOTO SENSOR
54 SP_FG
55 TU_FG
5 5 LOADING MOTOR
IC3004
(LOADING MOTOR VOLTAGE CONTROL)
CN3002
LDM2
LDM1
OUT 2
OUT 1
IN 2
IN 1
Vref
DRIVE VOLTAGE CONTROL
Q3001
35 LMC1
36 LMC2
32 LMC3
ROTARY ENCODER
CN3004
LSB
LSC
LSA
26 LSB
27 LSC
25 LSA
TP4001
CTL P
6 CTLAMPOUT
1 2
A/C HEAD
A/C HEAD
CTL
CN1
CN2001
CTL HEAD(−)
CTL HEAD(+)
3 CTL(−)
1 CTL(+)
TO VIDEO/ N.AUDIO
D.FF
V. PULSE
VIDEO_ENV
C.SYNC/VREF
100 V. FF
110 V. PULSE
13 VIDEO_ENV
98 C. SYNC
TP3903
+5V
TP3904
71 MODE
62 FWE
3 7 JOG
JOG/SHUTTLE UNIT
CN7005
CN3012
JSA/SHUTTLE_A
JSB/SHUTTLE_B
J2/JOGA
J1/JOGB
97 JSA/STLA
94 JSB/STLB
95 SHTL(L)/JOGA
96 JOGB
ONLY USED FOR HR-S8600EK
X1 65
X2 64
X3001 TIMER (32KHz)
OSC2(OUT) 69
OSC1(IN) 67
X3002 MAIN SYSTEM CLOCK (10MHz)
OSD_CS 91
REC_SAFETY 41
S.CLK 53
S.DATA_TOSYS 51
S.DATA_FRSYS 52
DDSPDCTL 79
DRIVE VOLTAGE CONTROL
Q3501
DDCREV 78
DDCFWD 77
IC3501 (DD MOTOR VOLTAGE CONTROL)
IN 2
IN 1
OUT 2
OUT 1
Vref
END_SENSOR 15
END SENSOR Q3003
START_SENSOR 14
START SENSOR Q3002
DDFG 59
DD_ABS 17
I2C_DATA 49
I2C_CLK 50
A.MUTE(H) 74
A.FF 99
A.REC_ST(H) 88
TP3905
IC3002 (RESET)
RES 66
RESET
D3004
AL5.8V
CF3301
XOUT 20
XIN 19
TP3902
SUB_DATA 47
SUB_CLK 48
IC3003 (SERIAL MEMORY)
SDA
SCL
IC3301
SUB_DATA 14
SUB_CLK 13
EE(L) 4
N.REC(H) 8
FLY_REC(H) 31
FULL_E_ON(H) 32
VSC_DATA 41
VSC_CLK 42
RXD_IRPT 7
RXD 12
TXD 11
I2C_DATA2 76
I2C_CLK2 75
TU_A_MUTE(H) 72
TU_V_MUTE(H) 73
TO ON SCREEN
OSD_CS
SCLK
S.DATA_FRSYS
TO SW/DISPLAY CN7001
CN3011
REC_SAFE
S.CLK
S.DATA_TOSYS
S.DATA_FRSYS
DD MOTOR
CN3501
CN3701
CN3702
DDM
DDM_FWD
DD_MFG
DD_ABS
TO FMA
I2C_DATA
I2C_CLK
A.MUTE(H)
A.FF
A.REC_ST(H)
EE(L)
TO VIDEO/N.AUDIO
I2C_DATA
I2C_CLK
A.MUTE (H)
A.REC_ST(H)
EE(L)
N.REC (H)
FLY.REC(H)
FULL_E_ON(H)
VSC_DATA
VSC_CLK
TO C.BOX CTL
RXD
TXD
TO TUNER
I2C_DATA2
I2C_CLK2
TU_A_MUTE(H)
TU_V_MUTE(H)
1
2
3
4
5
A
B
C
D
E
F
G
H

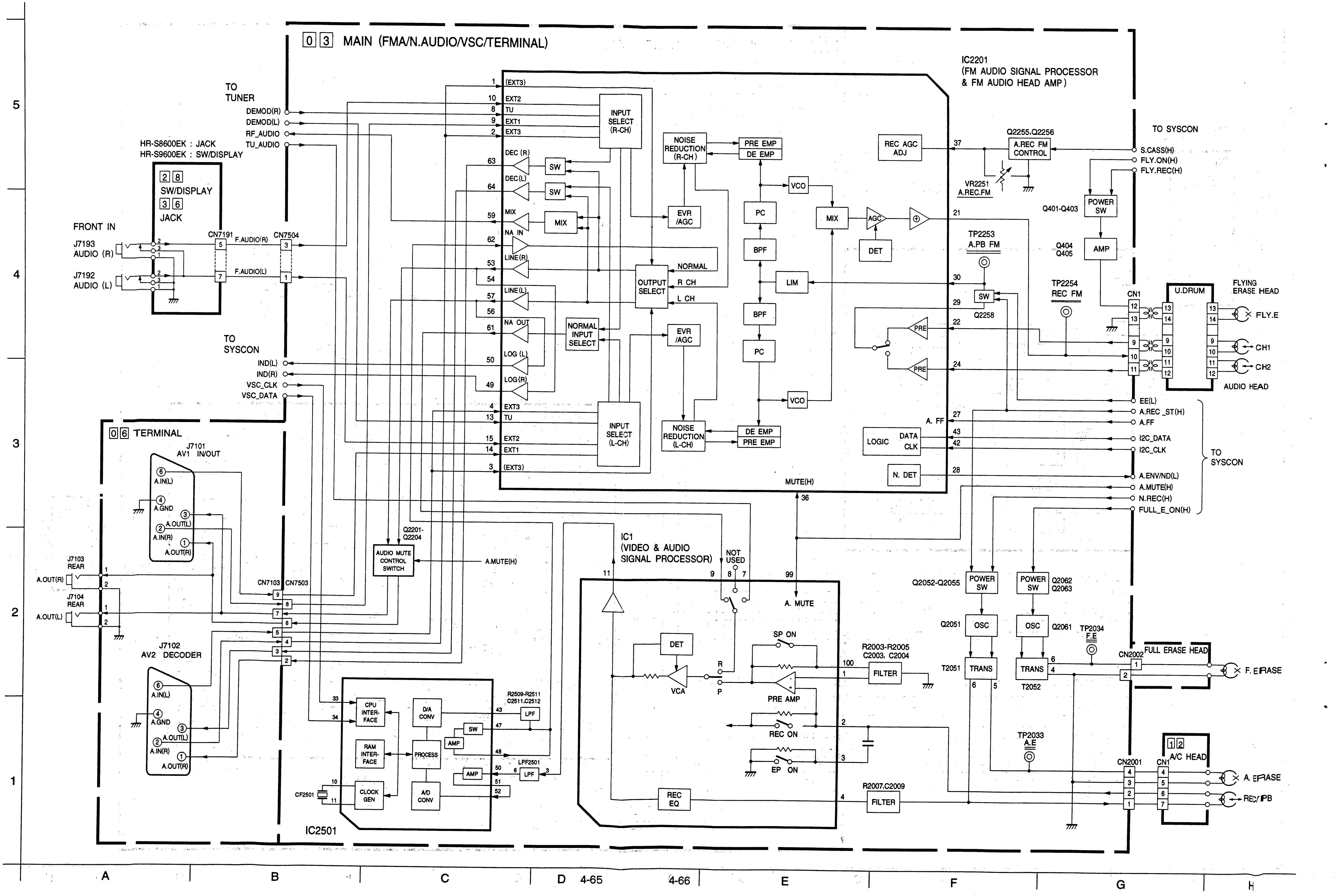
4.28 VIDEO BLOCK DIAGRAM


0 5 3D SVHS (VIDEO/ 3D/TBC)
IC1401
DFFI 10
SDATA 8
SCLK 7
VR 12
PS com/CNR
REC COUT 75 PB
3L COMB
Y COMB
REC YOUT 73 PB
REC PB
FSCIN 2
CIN 87
VYIN 82
Q1406,L1404 L1405 C1414-C1418
BPF
Q1405 BUF
Q1408,L1406 C1421,C1422
LPF
Q1407 BUF
Q1403,L1401 C1405-C1407 C1409
BPF
Q1402 BUF
Q1404 BUF
IC1006
Q1006, Q1007 BUF
AGC
BGP GEN
Q1012, Q1014, Q1015 BUF
TP1001 FSC PHASE
NOT USED 14
PB REC
DET
PHASE SHIFT
PILOT DET
OFF /ON
Q1005 SW
D1004
D1003
NOT USED 8
PILOT BLANK
17 1 4 13 6 12 7 11 9
Q1021 BUF
IC1001 (Y/C SWITCH)
NOT USED 41
39 37 35 33 32
NOT USED 31
NOT USED 29
V.PULSE
CLAMP 3D ON/OFF
LPF2
EQ1
3DEE SS 3DPB SW23
BUF
PS CONV SW7 28
BPF
CLAMP 43
SW2 PB EE 44
45
ATT 46
Sep Com SW1
AGC
DET
S.Sep
MIN MAX VREF
MAX MIN
EE.SEP SW21
PB3D
EE.SS
PS CONV SW8 26
25
BB SW11
MUTE 6dB
C MUTE
24 CHARA_DATA
ATT CLAMP
SW5
C.ADJ2
48 ATT
R_V_IN
50 ATT
F_V_IN SW24 TU
51 SP/LP
52 ATT
53
54 CLAMP ATT
FBC MUTE 6dB 23
P.MUTE(L)
LIM PB ON
BF BB SW13
FBC MUTE 6dB 21
LPF1 FBC
SS SW22
EE.SEP 3D
NOTCH SW6
PS CONV SW9
N.C
L1004 C1011 FILTER 19
R1003, C1010 FILTER 18
17
16 NOT USED 15
Q1016 SW
P.MUTE(L)
55 P.MUTE(L)
SW14 PB REC
N/S-LPF
SW4 EE PB
SW10 PS CONV
CLAMP
SW CTL
BUF
56 SW3 VHS SVHS
CLAMP
EQ
CLAMP
BUF
to filter
CR adj
I²C Interface
1 3 5
7 NOT USED
8
9 NOT USED
10 11 Vcc
13 14
IC1002
R1010, R1012 C1041, C1043 EQ 10
R1011, R1013, R1014 C1042, C1044 EQ 11
12
EP SP REC PB 6
SP/LP 5
NL PROCESS
REC PB 1
R1017, R1018, R1020 C1048, C1049 EQ 17
EP SP
EQ 18
R1016, R1019, R1021 C1047, C1050 16
CN1003
7 R1_Y_IN a
5 R1_C_IN b
3 R1_Y_OUT c
1 R1_C_OUT d
CN1001
2 D.FF(V) e
3 I2C_DATA f
5 I2C_CLK g
9 VREF h
17 C.SYNC i
19 fsc j
V.PULSE 21 V.PULSE k
22 PB_C_OUT l
CN1002
26 REC_C_OUT m
CHARA_DATA 24 CHARA_DATA n
23 V_FROM_OSD o
21 V_TO_OSD p
17 I2C_CLK q
18 I2C_DATA r
12 SVHS (L) s
15 Y_FROM_AV1 t
11 Y_TO_AV1 u
P.MUTE(L) 10 P.MUTE(L) v
9 Y_TO_SUB w
8 ME_ALC_DET x
7 LINE/TU_V_IN y
3 F_V_IN/R_C2_IN z
5
4
3
2
1
A B C D E F G H



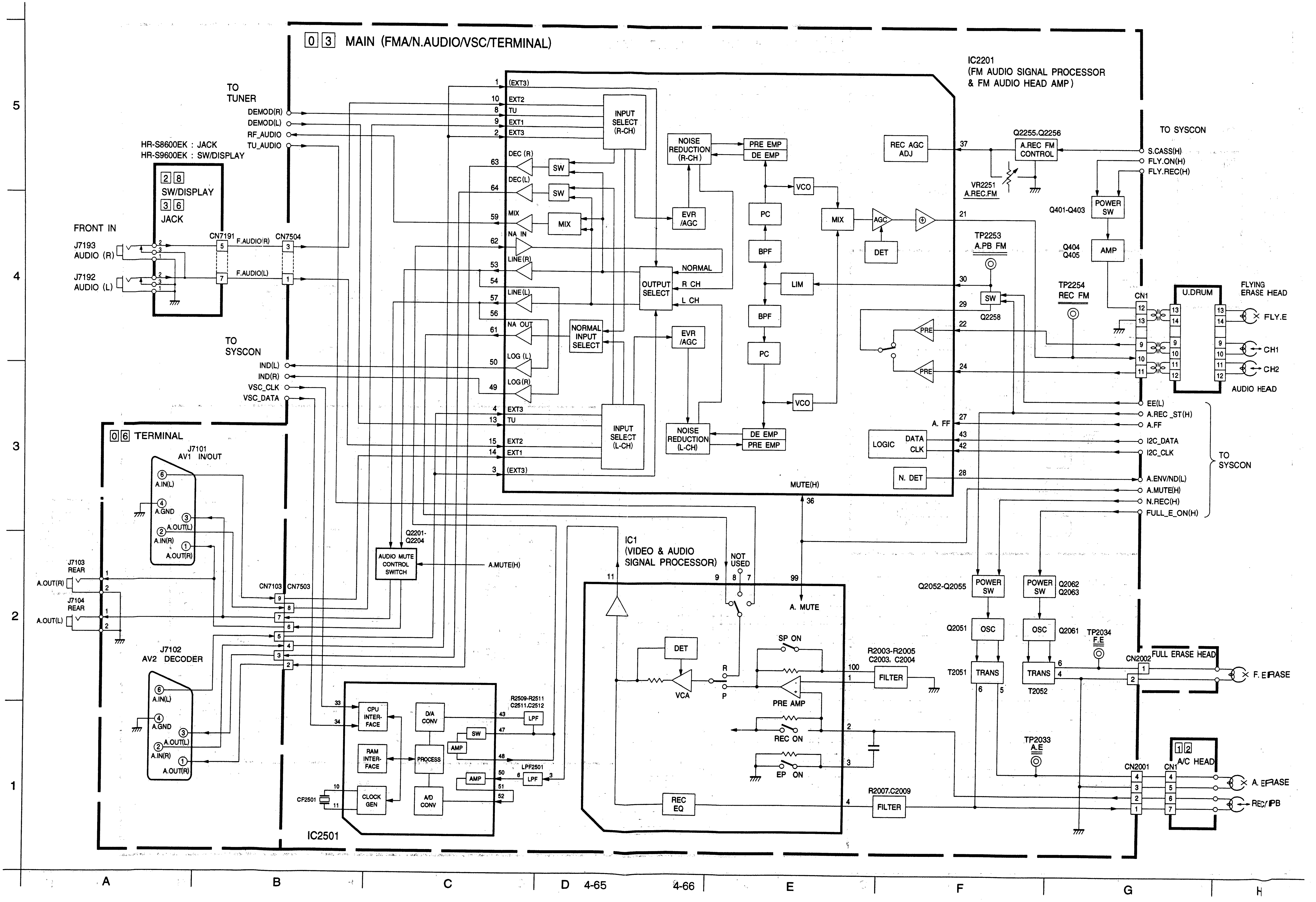
03 MAIN (VIDEO/ON SCREEN/TERMINAL)
HR-S8600EK : JACK
HR-S9600EK : SW/DISPLAY
36 JACK
28 SW/DISPLAY
06 TERMINAL
TO SYSCON
TO TUNER
R-Y_REV/PAL_EP_CTL
VIDEO_ENV
D.FF
EE (L)
I2C_DATA
I2C_CLK
OSD_CS
S.CLK
S.DATA_FRSYS
I2C_DATA2
I2C_CLK2
NOM/MESEC/S
C.SYNC/VREF
P.MUTE (L)
V.PULSE
TU_VIDEO
VIDEO_OSD_OUT
IC201 (ON SCREEN DISPLAY)
I2C_CLK
I2C_DATA
SDATA
SCLK
CS
CHABLK
XTAL_IN
CVOUT
CV_IN
Q207, Q208
BUF
J7191 FRONT VIDEO IN
CN7191
FRONT_VIDEO_IN
CN7504
J7194 FRONT S_IN
CN7192
CN7105
FRONT_Y_IN
FRONT_C_IN
CN7104
R1_Y_IN
R1_C_IN
R1_Y_OUT
R1_C_OUT
SW7101
IC7102
CN7102
CN7502
Q7103
J7107 REAR S-OUT
Q7102
Q7107 Q7111
BUF& SW
Q7104
J7102 AV2/DECODER
Q7108 Q7110
AMP
Y/V_IN
V_OUT
V.GND
C/R
G
B
V_IN
Y/V_OUT
J7101 AV1 IN/OUT
IC7101
CLAMP
6dB &BUF
I2C BUS CTL
CLK
DATA
EXP1
EXP2
CN7101
CN7501
FILTER
L202 C204
IC2 (SWITCH)
TP106 V.PB FM
TP111 D.FF
Q16
Q17
ES
Q15
Q13, Q14
EQ
L13C79
Q152
Q6 Q153
Q49
Q2
SW
Q1
X1
NOT USED
R-Y_REV/PAL_EP_CTL
CN101
D.FF(V)
I2C_DATA
I2C_CLK
VREF
C.SYNC
fsc
V.PULSE
PB_C_OUT
CN102
REC_C_OUT
CHARA_DATA
V_FROM_OSD
V_TO_OSD
I2C_CLK
I2C_DATA
SVHS (L)
Y_FROM_AV1
Y_TO_AV1
P.MUTE (L)
Y_TO_SUB
ME_ALC_DET
LINE/TU_V_IN
F_V_IN/R_C2_IN
C_CCD
Y_CCD
C43
MODE CTL
CLOCK DRIVER
Video AGC
ATT (-10dB)
Vcc
IC1 (VIDEO & AUDIO SIGNAL PROCESSOR
AUDIO SECTION
A.VCC
A.MUTE
PRE AMP
REC ON
EP ON
SP ON
SW1
SW2
DET
CN1
DRUM
VIDEO HEAD
SP CH2
SP CH1
LP CH2
LP CH1
A
B
C
D
E
F
G
H
1
2
3
4
5

4.29 AUDIO BLOCK DIAGRAM



03 MAIN (FMA/N.AUDIO/VSC/TERMINAL)
IC2201
(FM AUDIO SIGNAL PROCESSOR & FM AUDIO HEAD AMP)
TO TUNER
DEMOD(R)
DEMOD(L)
RF_AUDIO
TU_AUDIO
HR-S8600EK : JACK
HR-S9600EK : SW/DISPLAY
28 SW/DISPLAY
36 JACK
FRONT IN
J7193 AUDIO (R)
J7192 AUDIO (L)
CN7191
F.AUDIO(R)
F.AUDIO(L)
CN7504
TO SYSCON
IND(L)
IND(R)
VSC_CLK
VSC_DATA
(EXT3)
EXT2
TU
EXT1
EXT3
DEC (R)
DEC (L)
MIX
NA IN
LINE(R)
LINE(L)
NA OUT
LOG (L)
LOG (R)
SW
INPUT SELECT (R-CH)
INPUT SELECT (L-CH)
OUTPUT SELECT
NORMAL
R CH
L CH
NORMAL INPUT SELECT
NOISE REDUCTION (R-CH)
NOISE REDUCTION (L-CH)
EVR /AGC
PRE EMP
DE EMP
PC
BPF
LIM
VCO
REC AGC ADJ
AGC
DET
PRE
LOGIC
DATA
CLK
A. FF
N. DET
MUTE(H)
Q2255,Q2256
A.REC FM CONTROL
VR2251 A.REC.FM
TP2253 A.PB FM
TP2254 REC FM
Q2258
Q401-Q403
POWER SW
Q404 Q405
AMP
CN1
U.DRUM
FLYING ERASE HEAD
FLY.E
CH1
CH2
AUDIO HEAD
S.CASS(H)
FLY.ON(H)
FLY.REC(H)
EE(L)
A.REC _ST(H)
A.FF
I2C_DATA
I2C_CLK
A.ENV/ND(L)
A.MUTE(H)
N.REC(H)
FULL_E_ON(H)
06 TERMINAL
J7101 AV1 IN/OUT
A.IN(L)
A.GND
A.OUT(L)
A.IN(R)
A.OUT(R)
J7103 REAR
A.OUT(R)
J7104 REAR
A.OUT(L)
J7102 AV2 DECODER
CN7103
CN7503
Q2201-Q2204
AUDIO MUTE CONTROL SWITCH
A.MUTE(H)
IC2501
CPU INTER-FACE
D/A CONV
RAM INTER-FACE
PROCESS
CLOCK GEN
A/D CONV
CF2501
R2509-R2511 C2511,C2512
LPF
LPF2501
IC1 (VIDEO & AUDIO SIGNAL PROCESSOR)
NOT USED
A. MUTE
VCA
PRE AMP
SP ON
REC ON
EP ON
REC EQ
R2003-R2005 C2003, C2004
FILTER
R2007,C2009
Q2052-Q2055
Q2062 Q2063
Q2051
OSC
Q2061
T2051
TRANS
T2052
TP2034 F.E
TP2033 A.E
CN2002
FULL ERASE HEAD
F. ERASE
CN2001
12 A/C HEAD
A. ERASE
REC/PB
A
B
C
D
E
F
G
H
1
2
3
4
5

4.29 AUDIO BLOCK DIAGRAM



03 MAIN (FMA/N.AUDIO/VSC/TERMINAL)
IC2201
(FM AUDIO SIGNAL PROCESSOR
& FM AUDIO HEAD AMP)
TO TUNER
DEMOD(R)
DEMOD(L)
RF_AUDIO
TU_AUDIO
HR-S8600EK : JACK
HR-S9600EK : SW/DISPLAY
28 SW/DISPLAY
36 JACK
FRONT IN
J7193 AUDIO (R)
J7192 AUDIO (L)
CN7191
F.AUDIO(R)
F.AUDIO(L)
CN7504
TO SYSCON
IND(L)
IND(R)
VSC_CLK
VSC_DATA
(EXT3)
EXT2
TU
EXT1
EXT3
DEC (R)
DEC (L)
MIX
NA IN
LINE(R)
LINE(L)
NA OUT
LOG (L)
LOG (R)
SW
MIX
INPUT SELECT (R-CH)
INPUT SELECT (L-CH)
OUTPUT SELECT
NORMAL
R CH
L CH
NORMAL INPUT SELECT
NOISE REDUCTION (R-CH)
NOISE REDUCTION (L-CH)
EVR /AGC
PRE EMP
DE EMP
PC
BPF
LIM
VCO
MIX
AGC
DET
REC AGC ADJ
PRE
LOGIC
DATA
CLK
N. DET
MUTE(H)
A. FF
Q2255,Q2256
A.REC FM CONTROL
VR2251 A.REC.FM
TP2253 A.PB FM
TP2254 REC FM
Q2258
Q401-Q403
POWER SW
Q404 Q405
AMP
TO SYSCON
S.CASS(H)
FLY.ON(H)
FLY.REC(H)
CN1
U.DRUM
FLYING ERASE HEAD
FLY.E
CH1
CH2
AUDIO HEAD
EE(L)
A.REC _ST(H)
A.FF
I2C_DATA
I2C_CLK
TO SYSCON
A.ENV/ND(L)
A.MUTE(H)
N.REC(H)
FULL_E_ON(H)
06 TERMINAL
J7101 AV1 IN/OUT
A.IN(L)
A.GND
A.OUT(L)
A.IN(R)
A.OUT(R)
J7103 REAR
A.OUT(R)
J7104 REAR
A.OUT(L)
J7102 AV2 DECODER
CN7103
CN7503
Q2201-Q2204
AUDIO MUTE CONTROL SWITCH
A.MUTE(H)
IC2501
CPU INTER-FACE
D/A CONV
SW
AMP
RAM INTER-FACE
PROCESS
CLOCK GEN
A/D CONV
CF2501
R2509-R2511 C2511,C2512
LPF
LPF2501
IC1
(VIDEO & AUDIO SIGNAL PROCESSOR)
NOT USED
A. MUTE
DET
VCA
SP ON
PRE AMP
REC ON
EP ON
REC EQ
R2003-R2005 C2003, C2004
FILTER
R2007,C2009
Q2052-Q2055
Q2062 Q2063
Q2051
OSC
Q2061
T2051
TRANS
T2052
TP2034 F.E
TP2033 A.E
CN2002
FULL ERASE HEAD
F. ERASE
CN2001
12 A/C HEAD
A. ERASE
REC/PB
A
B
C
D
E
F
G
H
1
2
3
4
5

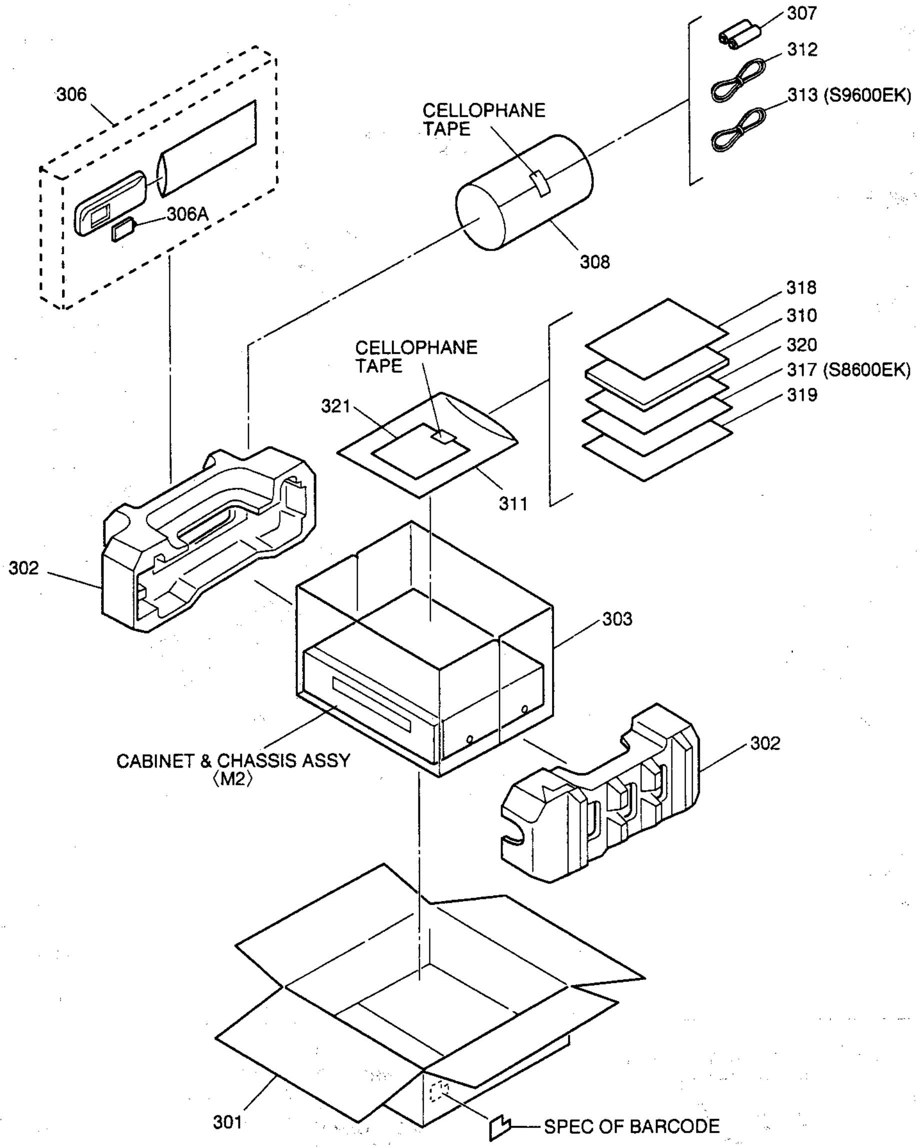
SECTION 5
PARTS LIST

SAFETY PRECAUTION

Parts identified by the ⚠ symbol are critical for safety. Replace only with specified part numbers.

5.1 PACKING AND ACCESSORY ASSEMBLY <M1>

The instruction manual to be provided with this product will differ according to the destination.


307
312
313 (S9600EK)
306
CELLOPHANE TAPE
306A
308
318
310
320
317 (S8600EK)
319
CELLOPHANE TAPE
321
311
302
303
CABINET & CHASSIS ASSY ⟨M2⟩
302
301
SPEC OF BARCODE

****

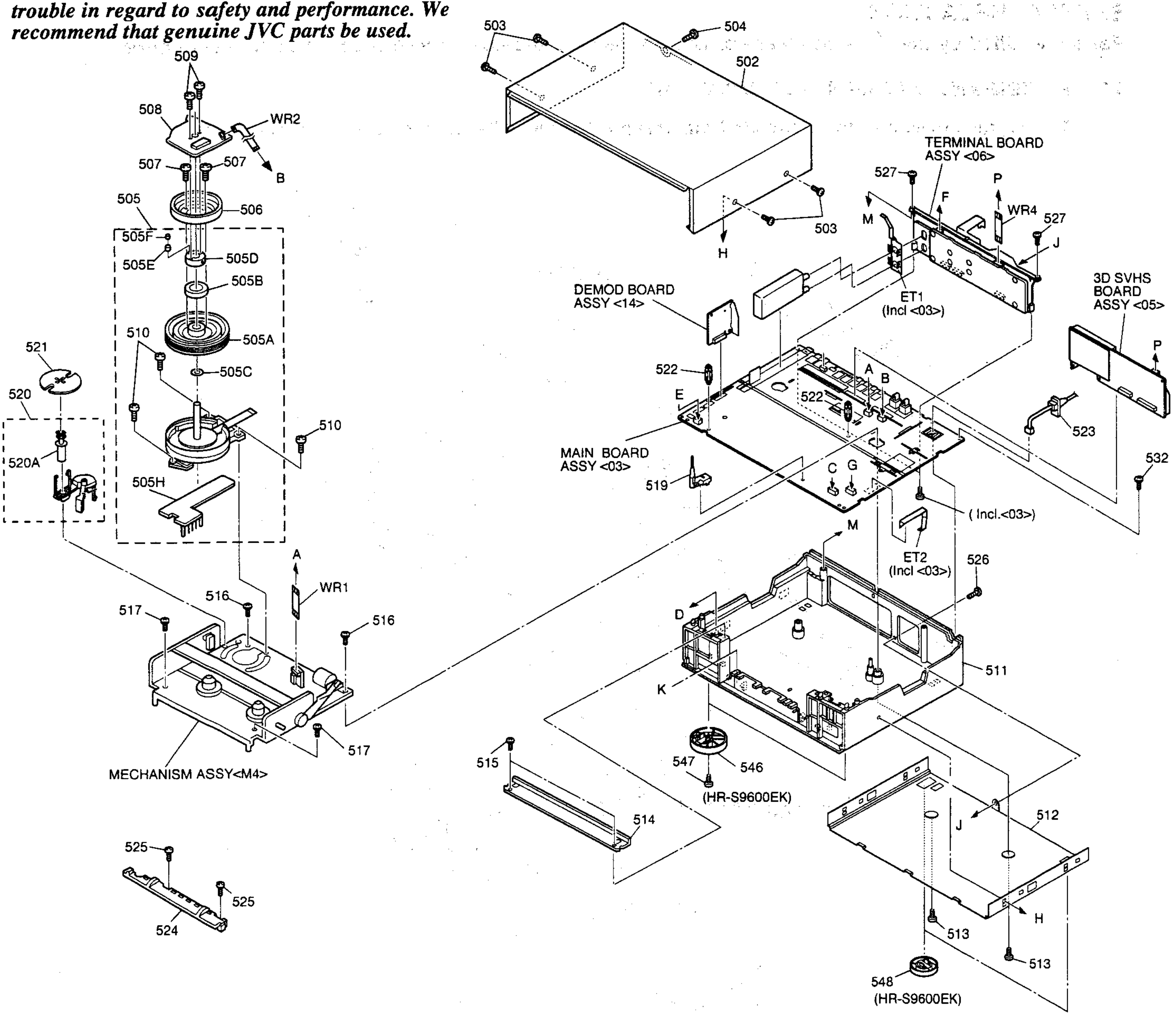
PACKING AND ACCESSORY ASSEMBLY <M1>

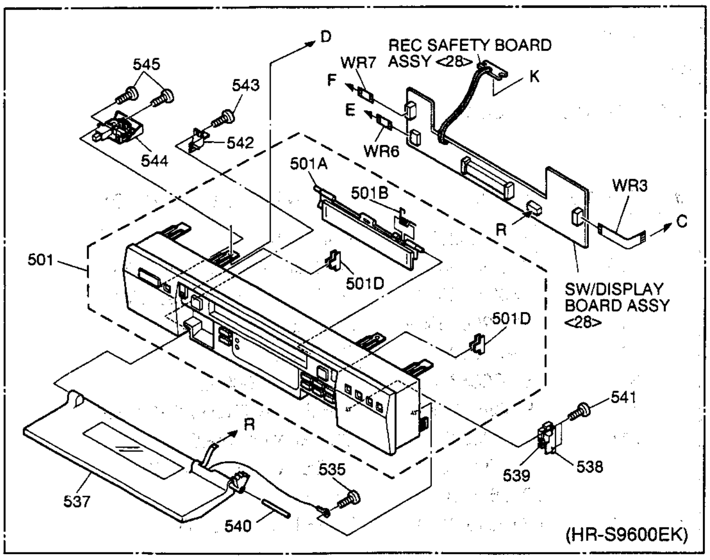
#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION
		301	LP30600-003A	PACKING CASE(S8600EK)
			LP30668-004A	PACKING CASE(S9600EK)
		302	LP30667-001A	CUSHION ASSY(S9600EK)
			LP30606-002B	CUSHION ASSY(S8600EK)
		303	PQM30021-95	POLY BAG
		306	LP20667-002C	REMOTE CONTROLLER
		306A	LP40225-003A	COVER(BATTERY)
		307	–	BATTERY,X2("AA"TYPE)
		308	QPC02202230P	POLY BAG
	⚠	310	LPT0245-001A	INST BOOK(EN)(S8600EK)
	⚠		LPT0261-001A	INST BOOK(EN)(S9600EK)
		311	QPC02503530P	POLY BAG
		312	PEAC0300-02	RF CABLE
		313	PEAC0358-120	S CABLE(S9600EK)
		317	LPT0248-016A	SHEET(CAUTION)(S8600EK)
		318	BT-54008-2	GUARANTY CARD
		319	LP20790-001A	QUESTIONAIRE CARD
		320	LP40605-001A	SHEET
		321	LPT0248-018A	SHEET(ATTENSION)

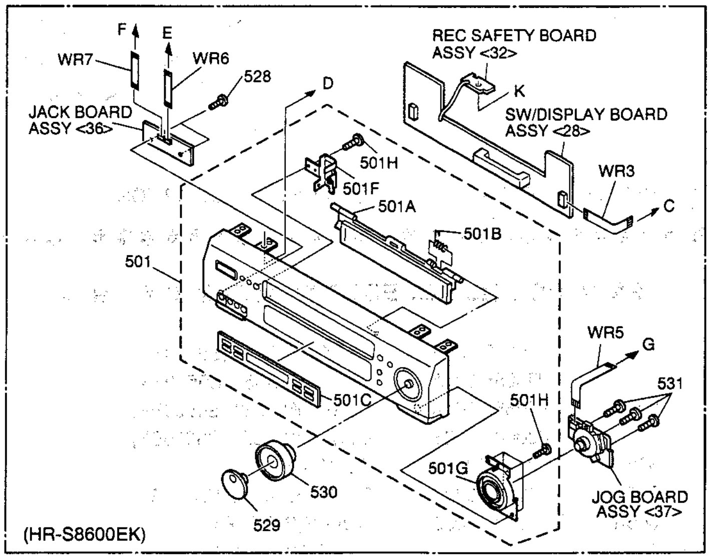
5.2 CABINET AND CHASSIS ASSEMBLY <M2>

BEWARE OF BOGUS PARTS

Parts that do not meet specifications may cause trouble in regard to safety and performance. We recommend that genuine JVC parts be used.


509
508
WR2
507
507
B
505
506
505F
505E
505D
505B
510
505A
505C
521
520
520A
510
505H
A
WR1
516
517
516
517
MECHANISM ASSY<M4>
525
525
524
503
504
502
503
H
TERMINAL BOARD ASSY <06>
527
P
M
F
WR4
527
J
ET1 (Incl <03>)
3D SVHS BOARD ASSY <05>
DEMOD BOARD ASSY <14>
P
522
E
A
B
522
523
MAIN BOARD ASSY <03>
532
519
C
G
(Incl.<03>)
M
ET2 (Incl <03>)
526
D
511
K
547
546
(HR-S9600EK)
515
514
512
J
H
513
513
548
(HR-S9600EK)


D
REC SAFETY BOARD ASSY <28>
545
543
WR7
F
K
E
542
544
WR6
501A
501B
WR3
C
R
501
501D
SW/DISPLAY BOARD ASSY <28>
501D
541
R
535
539
538
537
540
(HR-S9600EK)

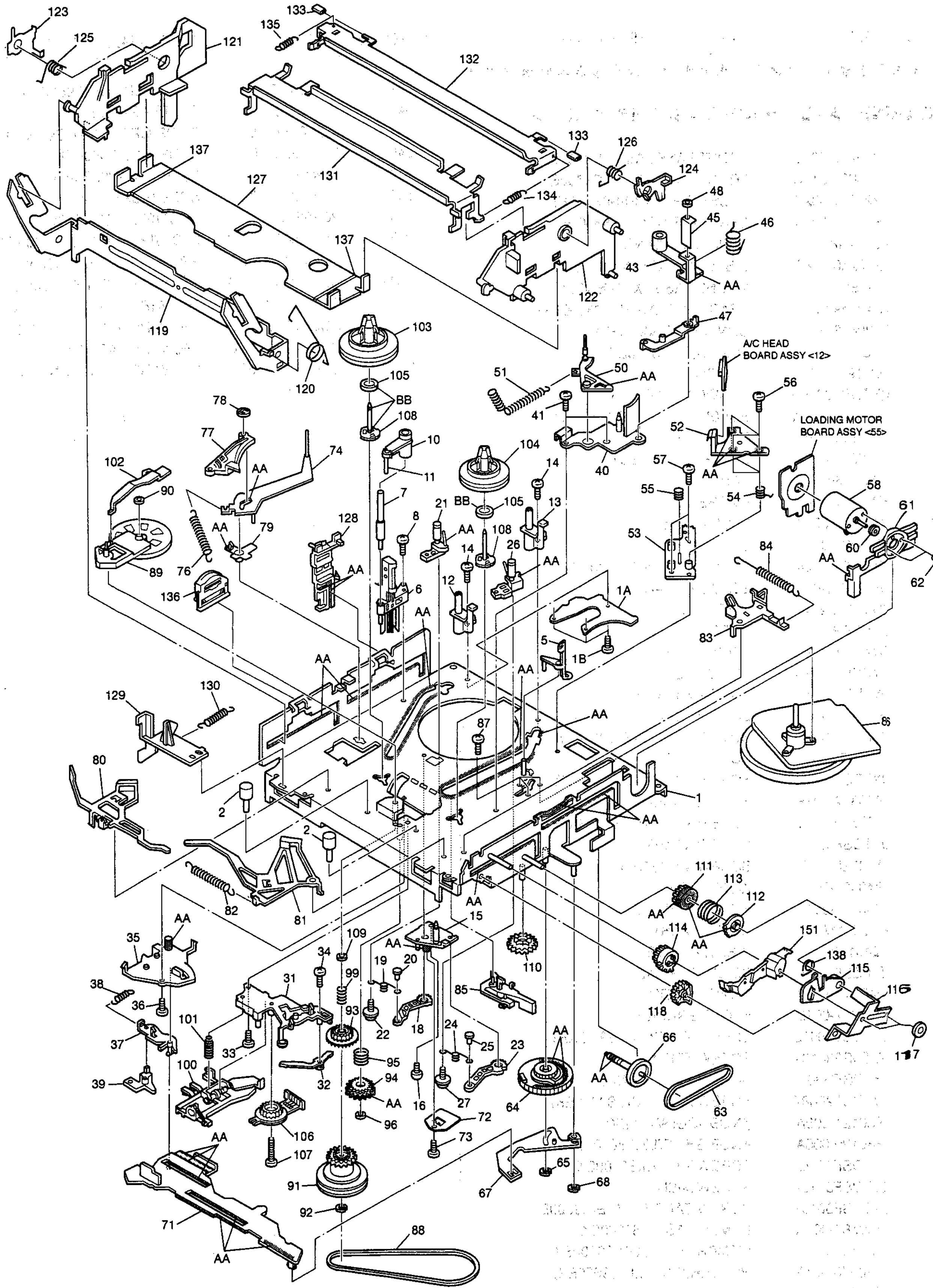

F
E
WR7
WR6
528
REC SAFETY BOARD ASSY <32>
D
K
JACK BOARD ASSY <36>
SW/DISPLAY BOARD ASSY <28>
501H
501F
501A
WR3
C
501B
501
WR5
G
531
501C
501H
501G
530
529
JOG BOARD ASSY <37>
(HR-S8600EK)

****

CABINET AND CHASSIS ASSEMBLY <M2>

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION
	⚠	501	LP10236-003D	FRONT PANEL ASSY(S9600EK)
	⚠		LP10088-012C	FRONT PANEL ASSY(S8600EK)
		501A	LP20661-002B	CASSETTE DOOR(S9600EK)
			LP20716-003A	CASSETTE DOOR(S8600EK)
		501B	PQ46448	TORSION SPRING
		501C	LP20250-008A	DISPLAY WINDOW(S8600EK)
		501D	PEME0879	MAGNET ASSY,X2(S9600EK)
		501F	LP40159-001B	BRACKET(DAMPER)(S8600EK)
		501G	LP20613-002A	ORNAMENT(S8600EK)
		501H	SDSF2608Z	SCREW,X5(S8600EK)
	⚠	502	PQ11922-26-5	TOP COVER
		503	QYTDSF3010R	SCREW,X4 TOP COVER(SIDE)
		504	QYTDSF3010M	SCREW,TOP COVER(REAR)
		505	LP20319-008A	DRUM SUB ASSY
		505A	LP20030-017A	UPPER DRUM ASSY
		505B	PDM4439	CAP
		505C	PDM4444-19-2	WASHER
		505D	LP40572-001A	COLLAR ASSY
		505E	LP40323-001A	CONTACT
		505F	LP30004-014A	COMPRESSION SPRING
		505H	LPA20002-01C	SENSOR BOARD ASSY
		506	PDZ0179-2-4	ROTOR ASSY
		507	QYSPSP3006Z	SCREW,X2
		508	PDZ0180-1-2	STATOR ASSY
		509	QYSPSPH2606Z	SCREW,X2
		510	QYTDST2610Z	SCREW,X3 DRUM
	⚠	511	LP10140-003D	BOTTOM CHASSIS(S9600EK)
	⚠		LP10140-006C	BOTTOM CHASSIS(S8600EK)
	⚠	512	PQ11921-1-3	BOTTOM COVER
		513	QYTDSF3010Z	SCREW,X2 BOTTOM COVER
		514	LP30312-001B	BRACKET(CHASSIS)
		515	QYTDSF3010Z	SCREW,X2 BRACKET CHASSIS
		516	QYTDSF4012Z	SCREW,X2 MECHA
		517	QYTDSF3010Z	SCREW,X2 MECHA
		519	LP40407-001A	KNOB ASSY
		520	LP40370-001E	ROLLER ARM ASSY
		520A	PDM4311A-1	ROLLER ASSY
		521	PQ45160	INERTIA PLATE
		522	LP40226-001A	PC SUPPORT,X2
	⚠	523	QMP51K0-170	POWER CORD
		524	LP30247-001B	FRONT BRACKET
		525	QYTDST2606Z	SCREW,X2 FRONT BRACKET
		526	QYTDSF3010M	SCREW,TERMINAL
		527	QYTPSFG3010Z	SCREW,X2 TERMINAL
		528	QYTDSF2608Z	SCREW,X2 S JACK(S8600EK)
		529	LP30121-005A	KNOB JOG(S8600EK)
		530	LP30120-005A	KNOB SHUTTLE(S8600EK)
		531	QYTDSF2608Z	SCREW,X3 JOG(S8600EK)
		532	QYTDSF3010Z	SCREW,MAIN
		535	QYTDSF3010Z	SCREW,EARTH PLATE(S9600EK)
		536	LP40582-001A	DAMPER ASSY(S9600EK)
		537	LP20702-002A	MEMBRANE DOOR(S9600EK)
		538	LP30570-001A	HOLDER,DAMPER(S9600EK)
		539	QZW0012-002	DAMPER(S9600EK)
		540	LP40500-001A	SHAFT(S9600EK)
		541	QYTDSF3010Z	SCREW,X2(S9600EK)
		542	LP40501-001A	HOLDER,DOOR(S9600EK)
		543	QYTDSF3010Z	SCREW(S9600EK)
		544	QZW0031-002	DOOR OPEN UNIT(S9600EK)
		545	QYTDSF3010Z	SCREW,X2(S9600EK)
		546	PQ46617A	FOOT ASSY,X2(S9600EK)
		547	QYTDSF3010Z	SCREW(S9600EK)
		548	PQ35504-2	FOOT(2),X2(S9600EK)
		WR1	QUQ112-0714CG	FFC WIRE,A/C HEAD CN2001
		WR2	QUQ212-0520CG	FFC WIRE,DRUM CN3001
		WR3	QUQ112-1414CG	FFC WIRE,DISPLSY CN3011
		WR4	QUQ112-0708CG	FFC WIRE,TERMINAL CN1003
		WR5	QUQ112-0616CG	FFC WIRE,JOG CN3012(S8600EK)
		WR6	QUQ212-0516CG	FFC WIRE,JACK CN7504
		WR7	QUQ212-0446CG	FFC WIRE,S JACK CN7105

5.3 MECHANISM ASSEMBLY <M4>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BB
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47
A/C HEAD BOARD ASSY <12>
51
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AA
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52
LOADING MOTOR BOARD ASSY <55>
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57
AA
102
90
AA
7
21
BB
105
13
55
54
58
61
128
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AA
108
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84
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AA
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Classification	Part No.	Symbol in drawing
Grease	KYODO-SH-P	AA
Oil	COSMO-HV56	BB

NOTE: The section marked in AA and BB indicate lubrication and greasing areas.

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MECHANISM ASSEMBLY <M4>

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION
		1	LP20228-009D	MAIN DECK ASSY
		1A	LP40275-003A	PLATE(SUPPLY)
		1B	QYTDST2606Z	SCREW,X4
		2	PQ46302-1-3	ADJUST PIN
		5	LP30492-002B	GIDE POLE GUARD
		6	NAH0001-001	FULL ERASE HEAD
		7	LP40098-001B	GUIDE POLE(SUPPLY)
		8	QYTDST2608Z	SCREW,FE HEAD
		10	LP30459-002A	TENSION STUD BASE
		11	LP40367-002A	TENSION STUD
		12	LP40096-001B	UV CATCHER(SUPPLY)
		13	LP40536-001A	UV CATCHER ASSY(TAKE UP)
		14	QYTPST2606Z	SCREW,X2 UV CATCHER
		15	LP30223-003C	LOADING ARM GEAR SHAFT
		16	QYTDST2606Z	SCREW
		18	LP30224-001A	LOADING ARM GEAR(SUPPLY)
		19	LP40099-001A	TORSION ARM
		20	LP40100-001A	PIN
		21	LP40101-003D	POLE BASE ASSY(SUPPLY)
		22	QYSPSTG2606Z	SCREW
		23	LP40103-002B	LOADING ARM GEAR(TAKE UP)
		24	LP40099-001A	TORSION ARM(TAKE UP)
		25	LP40100-001A	PIN
		26	LP40104-002C	POLE BASE ASSY(TAKE UP)
		27	QYSPSTG2606Z	SCREW
		31	LP20233-003G	ROTARY ENCODER GUIDE
		32	LP30499-001C	BRAKE LEVER
		33	QYTPST2606Z	SCREW
		34	QYTPST2608Z	SCREW
		35	LP30226-004B	CONTROL PLATE GUIDE
		36	QYTPST2605Z	SCREW
		37	LP30249-003B	TAKE UP LEVER
		38	LP30003-006A	TENSION SPRING
		39	LP40119-002A	T.UP HEAD
		40	LP20234-004B	LID GUIDE
		41	QYTDST2606Z	SCREW,X2
		43	LP40105-002A	PINCH ROLLER ARM ASSY
		45	LP40478-001A	P.R.SHEET2
		46	LP40148-002A	TORSION SPRING
		47	LP40149-001B	P.LEVER ASSY
		48	LP30016-002A	SLIT WASHER
		50	LP40106-002E	GUIDE ARM ASSY
		51	LP40134-001C	TENSION SPRING
		52	QAH0010-004	AC HEAD
		53	LP30228-001A	HEAD BASE
		54	LP30004-013A	COMPRESSION SPRING,X3
		55	LP40236-001A	COMPRESSION SPRING
		56	LP40213-002B	SPECIAL SCREW,X3
		57	QYTDST2608Z	SCREW,X2 HEAD BASE
		58	QAR0023-001	LOADING MOTOR
		60	PQ43546-1-2	MOTOR PULLEY
		61	LP30230-003A	MOTOR GUIDE
		62	QYTPSP3003Z	SCREW,X2
		63	LP30005-003A	BELT,LOADING MOTOR
		64	LP20791-002B	CONTROL CAM
		65	PQM30017-24	SLIT WASHER
		66	LP40120-001A	WORM GEAR
		67	LP40107-002A	LINK LEVER ASSY
		68	PQM30017-24	SLIT WASHER
		71	LP10201-002E	CONTROL PLATE
		72	LP40379-001B	CTL BRACKET(1)
		73	QYTDSF2608M	SCREW
		74	LP40108-002A	TENSION ARM ASSY
		76	LP30003-010A	TENSION SPRING
		77	LP40109-003D	TENSION BRAKE ASSY
		78	PQ46302-1-3	ADJUST PIN
		79	LP30232-002A	T.ARM BEARING
		80	LP40532-004A	MAIN BRAKE ASSY (SUPPLY)
		81	LP40111-006A	MAIN BRAKE AY (TAKE UP)
		82	LP30003-002A	TENSION SPRING
		83	LP40112-001F	SUB BRAKE ASSY(TAKE UP)
		84	LP40357-002A	TENSION SPRING
		85	LP40461-001A	CAPSTAN BRAKE ASSY
		86	QAR0087-003	CAPSTAN MOTOR
		87	QYTDSF2606M	SCREW,X3
		88	LP30005-007A	BELT,CAPSTAN MOTOR
		89	LP40114-008A	IDLER ARM ASSY
		90	LP30016-001A	SLIT WASHER
		91	LP40576-001A	CLUTCH UNIT 2
		92	PQM30017-47	SLIT WASHER
		93	LP40446-002B	CLUTCH GEAR 1
		94	LP40442-001A	DIRECT GEAR
		95	LP40483-002A	COMPRESSION SPRING
		96	LP30016-001A	SLIT WASHER
		99	LP40554-001A	COMPRESSION SPRING,C.GEAR1
		100	LP40484-001F	CHANGE LEVER ASSY
		101	LP40512-002B	COMPRESSION SPRING
		102	LP30236-002B	IDLER LEVER
		103	LP40420-001A	REEL DISK ASSY(SUPPLY)
		104	LP40421-001A	REEL DISK ASSY(TAKE UP)
		105	LP30017-015A	SPACER,X2 REEL DISK
		106	QSW0554-003	ROTARY ENCODER
		107	QYTPST2620Z	SCREW
		108	LP40123-001A	REEL SHAFT,X2
		109	LP30017-019A	SPACER,C.GEAR1
		110	LP30237-002B	CASSETTE GEAR
		111	LP30239-002F	LIMIT GEAR(1)
		112	LP30240-002G	LIMIT GEAR(2)
		113	LP40136-001E	TORSION SPRING
		114	LP30242-002A	RELAY GEAR
		115	LP30339-002D	OPENER GUIDE
		116	LP40214-001B	C.H.BRACKET
		117	PQM30017-47	SLIT WASHER,X2
		118	LP30243-001D	DRIVE GEAR
		119	LP20240-001C	DRIVE ARM
		120	LP40137-001A	TORSION SPRING
		121	LP10081-002L	SIDE HOLDER(L)
		122	LP10082-002M	SIDE HOLDER(R)
		123	LP30255-006A	LOCK LEVER(L)
		124	LP30256-001H	LOCK LEVER(R)
		125	LP40168-001A	TORSION SPRING(L)
		126	LP40218-001B	TORSION SPRING(R)
		127	LP30257-001E	CASSETTE HOLDER
		128	LP30244-002G	GUIDE RAIL
		129	LP30245-002E	REC SAFETY LEVER
		130	LP30003-004A	TENSION SPRING
		131	LP20578-001C	TOP GUIDE
		132	LP30500-001C	HOLD PLATE
		133	LP40450-003A	PAD,X2 HOLD PLATE
		134	LP30003-025B	TENSION SPRING(TAKE UP)
		135	LP30003-024A	TENSION SPRING(SUPPLY)
		136	LP40481-003A	ROLLER CAM ASSY
		137	LP30019-014A	PAD,X2 CASSETE HOLDER
		138	LP40545-001A	TORSION SPRING,OPENER GUIDE
		151	LP20324-002F	DOOR OPENER

5.4 ELECTRICAL PARTS LIST

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MAIN BOARD ASSEMBLY <03>

#	⚠ REF No.	PART No.	PART NAME, DESCRIPTION
	PW1	LPA10048-57E	MAIN BOARD ASSY(S9600EK)
		LPA10048-55E	MAIN BOARD ASSY(S8600EK)
	IC1	JCP8017-MSA	IC
	IC2	MM1113XF	IC
	IC201	LC74775-9750	IC
	IC2201	AN3651FBP	IC
	IC2501	LC85405JE	IC
	IC3001	HD6432194A55F	IC
	IC3002	S-80728AN-DR-X	IC
		or S-80828ANUP-W	IC
	IC3003	M24C08-BN6	IC
		or AT24C08-10PC	IC
		or S-24C08ADP	IC
		or X24C08P	IC
		or 24LC08B/P	IC
	IC3004	TA7291S	IC
	IC3301	M38513M4C56FP	SOP IC(MPU)
	IC3501	TA7291S	IC
	IC3961	TC7W241FU	IC(DIGITAL)
	IC3962	TC7W241FU	IC(DIGITAL)
	IC5301	LA5634-N	IC
	IC6080	BA15218F-XE	IC
	Q1	2SB1218A/QR/-X	TRANSISTOR
		or 2SA1576A/QR/-X	TRANSISTOR
		or 2PA1576/R/-X	TRANSISTOR
	Q2	UN521E	TRANSISTOR
		or RN1309	TRANSISTOR
		or DTC144WU	TRANSISTOR
		or PDTC144WU	TRANSISTOR
	Q6	2SB1218A/QR/-X	TRANSISTOR
		or 2PA1576/R/-X	TRANSISTOR
		or 2SA1576A/QR/-X	TRANSISTOR
	Q13	2SD1819A/QRS/-X	TRANSISTOR
		or 2PC4081/R/-X	TRANSISTOR
		or 2SC4081/QRS/-X	TRANSISTOR
	Q14	2SD1819A/QRS/-X	TRANSISTOR
		or 2SC4081/QRS/-X	TRANSISTOR
		or 2PC4081/R/-X	TRANSISTOR
	Q15	2SB1218A/QR/-X	TRANSISTOR
		or 2PA1576/R/-X	TRANSISTOR
		or 2SA1576A/QR/-X	TRANSISTOR
	Q16	UN511E	TRANSISTOR
		or PDTA144WU	TRANSISTOR
		or RN2309	TRANSISTOR
		or DTA144WU	TRANSISTOR
	Q17	UN521E	TRANSISTOR
		or PDTC144WU	TRANSISTOR
		or RN1309	TRANSISTOR
		or DTC144WU	TRANSISTOR
	Q18	UN521E	TRANSISTOR
		or PDTC144WU	TRANSISTOR
		or RN1309	TRANSISTOR
		or DTC144WU	TRANSISTOR
	Q47	2SK433/D/-W	JUNCTION FET
	Q48	2SK433/D/-W	JUNCTION FET
	Q49	2SC3936/BC/-X	TRANSISTOR
	Q55	UN521E	TRANSISTOR
		or RN1309	TRANSISTOR
		or DTC144WU	TRANSISTOR
		or PDTC144WU	TRANSISTOR
	Q152	2SB1218A/QR/-X	TRANSISTOR
		or 2SA1576A/QRS/-X	TRANSISTOR
		or 2PA1576/R/-X	TRANSISTOR
	Q153	2SD1819A/QRS/-X	TRANSISTOR
		or 2PC4081/R/-X	TRANSISTOR
		or 2SC4081/QRS/-X	TRANSISTOR
	Q207	2SB1218A/QR/-X	TRANSISTOR
		or 2SA1576A/QR/-X	TRANSISTOR
		or 2PA1576/R/-X	TRANSISTOR
	Q208	2SD1819A/QRS/-X	TRANSISTOR
		or 2PC4081/R/-X	TRANSISTOR
		or 2SC4081/QRS/-X	TRANSISTOR
	Q401	2SA1576A/QR/-X	TRANSISTOR
	Q402	UN521E	TRANSISTOR
		or RN1309	TRANSISTOR
		or DTC144WU	TRANSISTOR
		or PDTC144WU	TRANSISTOR
	Q403	UN521E	TRANSISTOR
		or RN1309	TRANSISTOR
		or DTC144WU	TRANSISTOR
		or PDTC144WU	TRANSISTOR
	Q404	2SA1576A/QR/-X	TRANSISTOR
	Q405	2SA1576A/QR/-X	TRANSISTOR
	Q2001	2SC4081/QRS/-X	TRANSISTOR
		or 2PC4081/R/-X	TRANSISTOR
		or 2SD1819A/QRS/-X	TRANSISTOR
	Q2002	2SC4081/QRS/-X	TRANSISTOR
		or 2SD1819A/QRS/-X	TRANSISTOR
		or 2PC4081/R/-X	TRANSISTOR
	Q2003	DTA144WU	TRANSISTOR
		or PDTA144WU	TRANSISTOR
		or UN511E	TRANSISTOR
		or RN2309	TRANSISTOR
	Q2051	2SC4081/QRS/-X	TRANSISTOR
		or 2PC4081/R/-X	TRANSISTOR
		or 2SD1819A/QRS/-X	TRANSISTOR
	Q2052	2SA1576A/QR/-X	TRANSISTOR
		or 2SB1218A/QR/-X	TRANSISTOR
		or 2PA1576/R/-X	TRANSISTOR
	Q2053	DTC144WU	TRANSISTOR
		or PDTC144WU	TRANSISTOR
		or RN1309	TRANSISTOR
		or UN521E	TRANSISTOR
	Q2054	2SA1576A/QR/-X	TRANSISTOR
		or 2PA1576/R/-X	TRANSISTOR
		or 2SB1218A/QR/-X	TRANSISTOR
	Q2055	DTC144WU	TRANSISTOR
		or PDTC144WU	TRANSISTOR
		or RN1309	TRANSISTOR
		or UN521E	TRANSISTOR
	Q2061	2SC4081/QRS/-X	TRANSISTOR
		or 2SD1819A/QRS/-X	TRANSISTOR
		or 2PC4081/R/-X	TRANSISTOR
	Q2062	2SA1576A/QR/-X	TRANSISTOR
		or 2PA1576/R/-X	TRANSISTOR
		or 2SB1218A/QR/-X	TRANSISTOR
	Q2063	DTC144WU	TRANSISTOR
		or PDTC144WU	TRANSISTOR

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION
			or RN1309	TRANSISTOR
			or UN521E	TRANSISTOR
		Q2102	DTC144WU	TRANSISTOR
			or PDTC144WU	TRANSISTOR
			or RN1309	TRANSISTOR
			or UN521E	TRANSISTOR
		Q2151	2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
		Q2152	DTA144WU	TRANSISTOR
			or PDTA144WU	TRANSISTOR
			or UN511E	TRANSISTOR
			or RN2309	TRANSISTOR
		Q2201	2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
		Q2202	2SC4081/QRS/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q2203	DTA144WU	TRANSISTOR
			or PDTA144WU	TRANSISTOR
			or UN511E	TRANSISTOR
			or RN2309	TRANSISTOR
		Q2204	DTC144WU	TRANSISTOR
			or PDTC144WU	TRANSISTOR
			or RN1309	TRANSISTOR
			or UN521E	TRANSISTOR
		Q2255	DTC144WU	TRANSISTOR
			or PDTC144WU	TRANSISTOR
			or RN1309	TRANSISTOR
			or UN521E	TRANSISTOR
		Q2256	DTC144WU	TRANSISTOR
			or PDTC144WU	TRANSISTOR
			or RN1309	TRANSISTOR
			or UN521E	TRANSISTOR
		Q2258	DTA144WU	TRANSISTOR
			or PDTA144WU	TRANSISTOR
			or UN511E	TRANSISTOR
			or RN2309	TRANSISTOR
		Q2501	2SD1819A/QRS/-X	TRANSISTOR
			or 2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q2502	UN521E	TRANSISTOR
			or RN1309	TRANSISTOR
			or DTC144WU	TRANSISTOR
			or PDTC144WU	TRANSISTOR
		Q3001	2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SC4081/QRS/-X	TRANSISTOR
		Q3002	PTZ-NV16	PHOTO TRANSISTOR
		Q3003	PTZ-NV16	PHOTO TRANSISTOR
		Q3004	2SD1819A/QRS/-X	TRANSISTOR
			or 2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q3005	2SC1740S/QRS/-T	TRANSISTOR
			or 2SC3199/YG/-T	TRANSISTOR
		Q3007	UN521E	TRANSISTOR
			or RN1309	TRANSISTOR
			or DTC144WU	TRANSISTOR
			or PDTC144WU	TRANSISTOR
		Q3008	UN521E	TRANSISTOR

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
			or RN1309	TRANSISTOR	
			or DTC144WU	TRANSISTOR	
			or PDTC144WU	TRANSISTOR	
		Q3501	2SD1819A/QRS/-X	TRANSISTOR	
			or 2SC4081/QRS/-X	TRANSISTOR	
			or 2PC4081/R/-X	TRANSISTOR	
		Q4001	UN5211	TRANSISTOR	
			or RN1302	TRANSISTOR	
			or DTC114EU	TRANSISTOR	
			or PDTC114EU	TRANSISTOR	
		Q5101	2SK2632-CB14	POWER MOS FET	
			or 2SK2632	POWER MOS FET	
			or 2SK2129	POWER MOS FET	
			or 2SK2129-LT	POWER MOS FET	
		Q5102	2SD2144S/UV/-T	TRANSISTOR	
		Q5301	2SB1256	TRANSISTOR	
		Q5302	DTC114TU	TRANSISTOR	
			or PDTC114TU	TRANSISTOR	
			or UN5215	TRANSISTOR	
			or RN1311	TRANSISTOR	
		Q5303	2SD2144S/UVW/-T	TRANSISTOR	
		Q5304	2SD1450/ST/-T	TRANSISTOR	
			or 2SD1302/ST/-T	TRANSISTOR	
		Q5305	UN5111	TRANSISTOR	
			or RN2302	TRANSISTOR	
			or DTA114EU	TRANSISTOR	
			or PDTA114EU	TRANSISTOR	
		Q5306	2SB1256	TRANSISTOR	
		Q5310	UN5211	TRANSISTOR	
			or RN1302	TRANSISTOR	
			or PDTC114EU	TRANSISTOR	
			or DTC114EU	TRANSISTOR	
		Q5311	2SA1576A/RS/-X	TRANSISTOR	
			or 2SB1218A/RS/-X	TRANSISTOR	
		Q5312	2SA1745/6-7/-X	TRANSISTOR	
		Q6030	2SB1218A/RS/-X	TRANSISTOR	
		Q6031	UN5211	TRANSISTOR	
			or RN1302	TRANSISTOR	
			or PDTC114EU	TRANSISTOR(S8600EK)	
			or DTC114EU	TRANSISTOR(S9600EK)	
		Q6032	UN5211	TRANSISTOR	
			or RN1302	TRANSISTOR	
			or PDTC114EU	TRANSISTOR	
			or DTC114EU	TRANSISTOR	
		D16	DA204U	DIODE	
		D17	DA204U	DIODE	
		D24	DA204U	DIODE	
		D201	NRSA02J-152X	MG RESISTOR	1.5kΩ, 1/10W
		D202	NRSA02J-0R0X	MG RESISTOR	0Ω, 1/10W
		D203	NRSA02J-0R0X	MG RESISTOR	0Ω, 1/10W
		D2001	1SS133	DIODE	
			or 1N4148M	DIODE	
		D2201	11ES2	DIODE	
		D2501	1SS355	DIODE	
		D3001	LNB2301L01VI	LE DIODE	
		D3002	1SS133	DIODE	
		D3003	RD39ES/B3/-T2	ZENER DIODE	
			or MTZJ39C	ZENER DIODE	
		D3004	11E2-T5	DIODE	
		D3005	11E2-T5	DIODE	
		D3007	1SS133	DIODE	

#	⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
	D3008	1SS355	DIODE	
	D3961	RB721Q-40-T2	SB DIODE	
	D3965	RB721Q-40-T2	SB DIODE	
	D4001	1SS355	DIODE	
	D4002	1SS355	DIODE	
	D5001	S1WB(A)60F4102	BRIDGE DIODE	
		or S1WB(A)60F4072X	BRIDGE DIODE	
		or S1WB(A)60F4062X	BRIDGE DIODE	
	D5101	AU01	FR DIODE	
		or ERA18-04-T2	FR DIODE	
		or PG104RS	FR DIODE	
		or 1SR153-400-T2	FR DIODE	
		or 10ELS4	FR DIODE	
	D5102	AU01	FR DIODE	
		or ERA18-04-T2	FR DIODE	
		or PG104RS	FR DIODE	
		or 10ELS4	FR DIODE	
		or 1SR153-400-T2	FR DIODE	
	D5103	1SS133	DIODE	
	D5105	1SS133	DIODE	
	D5201	AK04	DIODE	
		or 11EQS04	SB DIODE	
		or 1S4	SB DIODE	
	D5202	FML-12S	FR DIODE	
		or FCF06A20	FR DIODE	
		or YG901C2	FR DIODE	
		or MA644	FR DIODE	
	D5206	FMB-24	BARRIER DIODE	
		or MA7D49	SB DIODE	
		or YG801C04	SB DIODE	
		or FSQ05A04B	SB DIODE	
	D5209	ERA18-02-T2	FR DIODE	
		or 1SR153-400-T2	FR DIODE	
		or 10ELS2	FR DIODE	
		or PG104RS	FR DIODE	
	D5210	AU01Z	FR DIODE	
		or PG104RS	FR DIODE	
		or 1SR153-400-T2	FR DIODE	
		or 10ELS2	FR DIODE	
		or ERA18-02-T2	FR DIODE	
	D5211	AU01Z	FR DIODE	
		or ERA18-02-T2	FR DIODE	
		or 1SR153-400-T2	FR DIODE	
		or 10ELS2	FR DIODE	
		or PG104RS	FR DIODE	
	D5301	MTZJ15A	ZENER DIODE	
		or RD15ES/B1/-T2	ZENER DIODE	
	D5302	MTZJ6.8A	ZENER DIODE	
		or RD6.8ES/B1/-T2	ZENER DIODE	
	D5303	MTZJ27C	ZENER DIODE	
		or RD27ES/B3/-T2	ZENER DIODE	
	D5304	1SS133	DIODE	
	D5305	11E2-T5	DIODE	
	D5307	1SS133	DIODE	
	D5308	1SS133	DIODE	
	D5309	1SS133	DIODE	
	D5311	RD5.1ES/B3/-T2	ZENER DIODE	
		or MTZJ5.1C	ZENER DIODE	
	D6002	HZ30-2L-T2	ZENER DIODE	
		or HZ30-2LTD	Z DIODE (M)	
	R1	NRSA02J-331X	MG RESISTOR	330Ω,1/10W

#	⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
	R2	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
	R3	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
	R4	NRSA02J-822X	MG RESISTOR	8.2kΩ,1/10W
	R5	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
	R6	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
	R7	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
	R10	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R11	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R13	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
	R15	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R16	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R24	NRVA02D-622X	CMF RESISTOR	6.2kΩ,1/10W
	R25	NRVA02D-152X	CMF RESISTOR	1.5kΩ,1/10W
	R46	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
	R47	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
	R48	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
	R49	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
	R50	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R52	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R54	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R55	NRSA02J-122X	MG RESISTOR	1.2kΩ,1/10W
	R56	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R57	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R60	NRSA02J-563X	MG RESISTOR	56kΩ,1/10W
	R62	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R63	NDC21HJ-120X	CAPACITOR	12pF,50V
	R64	NDC21HJ-220X	CAPACITOR	22pF,50V
	R68	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
	R69	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
	R71	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
	R73	NRSA02J-683X	MG RESISTOR	68kΩ,1/10W
	R94	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
	R95	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R96	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R137	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R143	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R158	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R168	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R169	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R170	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
	R171	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
	R181	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R195	NRSA02J-684X	MG RESISTOR	680kΩ,1/10W
	R197	NRSA02J-106X	MG RESISTOR	10MΩ,1/10W
	R201	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R202	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
	R208	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R209	NRSA02J-512X	MG RESISTOR	5.1kΩ,1/10W
	R210	NRSA02J-182X	MG RESISTOR	1.8kΩ,1/10W
	R211	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
	R212	NRSA02J-331X	MG RESISTOR	330Ω,1/10W
	R213	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R216	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
	R218	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R224	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
	R225	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
	R401	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
	R402	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
	R403	NRSA02J-393X	MG RESISTOR	39kΩ,1/10W
	R404	NRSA02J-683X	MG RESISTOR	68kΩ,1/10W
	R405	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		R408	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
		R409	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
		R410	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
		R2001	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R2002	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R2003	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
		R2004	NRSA02J-224X	MG RESISTOR	220kΩ,1/10W
		R2005	NRSA02J-271X	MG RESISTOR	270Ω,1/10W
		R2006	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
		R2007	NRSA02J-183X	MG RESISTOR	18kΩ,1/10W
		R2009	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R2013	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
		R2014	NRSA02J-153X	MG RESISTOR	15kΩ,1/10W
		R2018	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R2019	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R2020	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R2053	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R2054	NRSA02J-153X	MG RESISTOR	15kΩ,1/10W
		R2055	NRSA02J-3R3X	MG RESISTOR	3.3Ω,1/10W
		R2056	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R2057	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R2058	NRSA02J-183X	MG RESISTOR	18kΩ,1/10W
		R2059	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R2060	NRSA02J-183X	MG RESISTOR	18kΩ,1/10W
		R2061	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
		R2062	NRSA02J-3R3X	MG RESISTOR	3.3Ω,1/10W
		R2063	QRE141J-151Y	RESISTOR	150Ω,1/4W
		R2064	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R2065	NRSA02J-183X	MG RESISTOR	18kΩ,1/10W
		R2105	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R2151	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R2152	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R2201	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R2202	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R2203	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
		R2204	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
		R2206	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
		R2207	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R2208	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R2209	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
		R2210	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R2211	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R2212	NRSA02J-104X	MG RESISTOR	100kΩ,1/10W
		R2213	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
		R2214	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
		R2215	NRSA02J-104X	MG RESISTOR	100kΩ,1/10W
		R2216	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
		R2217	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
		R2218	NRSA02J-560X	MG RESISTOR	56Ω,1/10W
		R2219	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
		R2220	NRSA02J-272X	MG RESISTOR	2.7kΩ,1/10W
		R2221	NRSA02J-272X	MG RESISTOR	2.7kΩ,1/10W
		R2222	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
		R2223	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
		R2224	NRSA02J-272X	MG RESISTOR	2.7kΩ,1/10W
		R2225	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R2226	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
		R2227	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R2228	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
		R2229	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
		R2230	NRSA02J-272X	MG RESISTOR	2.7kΩ,1/10W
		R2231	NRSA02J-272X	MG RESISTOR	2.7kΩ,1/10W
		R2236	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R2237	NRSA02J-511X	MG RESISTOR	510Ω,1/10W
		R2239	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R2240	NRSA02J-511X	MG RESISTOR	510Ω,1/10W
		R2241	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R2242	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R2243	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R2244	NRSA02J-560X	MG RESISTOR	56Ω,1/10W
		R2251	NRSA02J-303X	MG RESISTOR	30kΩ,1/10W
		R2252	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
		R2255	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R2501	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R2502	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R2503	NRSA02J-104X	MG RESISTOR	100kΩ,1/10W
		R2504	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R2505	NRSA02J-105X	MG RESISTOR	1MΩ,1/10W
		R2506	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R2507	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R2508	NRSA02J-333X	MG RESISTOR	33kΩ,1/10W
		R2509	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R2510	NRSA02J-104X	MG RESISTOR	100kΩ,1/10W
		R2511	NRSA02J-154X	MG RESISTOR	150kΩ,1/10W
		R2512	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R2513	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R2514	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R2515	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R2519	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R2520	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R2521	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R2522	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
		R3011	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3012	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3013	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3014	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3015	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3016	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3017	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3018	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
		R3019	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3020	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3021	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3022	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3025	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3026	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3027	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3029	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3030	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3031	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3033	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3034	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3035	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3036	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3037	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3038	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
		R3039	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3040	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3041	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3042	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3044	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3046	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
R3047	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
R3048	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
R3049	NRSA02J-331X	MG RESISTOR	330Ω,1/10W
R3050	NRSA02J-331X	MG RESISTOR	330Ω,1/10W
R3051	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
R3052	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
R3053	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
R3054	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3055	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3056	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3057	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3058	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3059	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3060	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
R3061	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
R3062	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3063	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3066	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3069	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R3071	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3072	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3073	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3074	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
R3075	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
R3076	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
R3077	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3078	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3079	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R3080	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3081	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3083	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3087	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3088	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
R3089	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3090	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3091	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3092	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3093	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3094	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3095	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3096	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3097	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3103	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3104	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3105	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3106	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3201	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3202	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3203	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3204	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
R3205	QRE141J-181Y	RESISTOR	180Ω,1/4W
R3206	NRSA02J-183X	MG RESISTOR	18kΩ,1/10W
R3207	NRSA02J-183X	MG RESISTOR	18kΩ,1/10W
R3208	QRE141J-181Y	RESISTOR	180Ω,1/4W
R3209	QRE141J-273Y	RESISTOR	27kΩ,1/4W
R3210	NRSA02J-181X	MG RESISTOR	180Ω,1/10W
R3211	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
R3212	QRE141J-474Y	RESISTOR	470kΩ,1/4W
R3213	NRSA02J-334X	MG RESISTOR	330kΩ,1/10W
R3214	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3215	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3216	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3217	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
R3218	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3219	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3220	NRSA02J-104X	MG RESISTOR	100kΩ,1/10W
R3222	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3223	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3224	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3225	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3229	NRSA02J-105X	MG RESISTOR	1MΩ,1/10W
R3230	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3231	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3233	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3234	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3235	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
R3236	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
R3237	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3238	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3239	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3240	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3241	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3242	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3244	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3251	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3304	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3305	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3306	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3307	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3308	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3309	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3311	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3312	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3313	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
R3314	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
R3316	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3317	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3318	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3319	NRSA02J-105X	MG RESISTOR	1MΩ,1/10W
R3323	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R3324	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3325	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3327	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3328	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3329	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3330	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3331	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3332	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3333	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3335	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3337	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3338	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3339	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3340	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3341	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3342	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3353	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3354	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3501	NRSA02J-153X	MG RESISTOR	15kΩ,1/10W
R3502	NRSA02J-272X	MG RESISTOR	2.7kΩ,1/10W
R3503	NRSA02J-153X	MG RESISTOR	15kΩ,1/10W
R3504	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		R3505	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
		R3506	NRSA02J-123X	MG RESISTOR	12kΩ,1/10W
		R3961	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3962	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R4001	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R4003	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
		R4004	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
		R4005	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
		R4006	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R4007	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R4008	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R4009	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R4010	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R4011	NRSA02J-392X	MG RESISTOR	3.9kΩ,1/10W
		R4012	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R4013	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R4014	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R4015	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
		R4016	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R4017	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R4018	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R4019	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R4020	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R4021	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R5101	QRE141J-334Y	RESISTOR	330kΩ,1/4W
		R5102	QRE141J-334Y	RESISTOR	330kΩ,1/4W
		R5103	QRE141J-683Y	RESISTOR	68kΩ,1/4W
		R5104	QRG029J-154G	OMF RESISTOR	150kΩ,2W
		R5106	QRT01DJ-R39X	MF RESISTOR	0.39Ω,1W
		R5107	QRE121J-331Y	RESISTOR	330Ω,1/2W
		R5108	QRE141J-222Y	RESISTOR	2.2kΩ,1/4W
		R5109	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
		R5110	NRSA02J-224X	MG RESISTOR	220kΩ,1/10W
		R5111	NRSA02J-821X	MG RESISTOR	820Ω,1/10W
		R5112	NRSA02J-821X	MG RESISTOR	820Ω,1/10W
		R5301	QRE141J-1R8Y	RESISTOR	1.8Ω,1/4W
		R5302	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R5303	NRSA02J-122X	MG RESISTOR	1.2kΩ,1/10W
	⚠	R5304	QRZ9005-221X	FUSI RESISTOR	220Ω,1/4W
		R5305	QRE141J-471Y	RESISTOR	470Ω,1/4W
		R5306	NRSA02J-333X	MG RESISTOR	33kΩ,1/10W
		R5307	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R5308	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R5309	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R5310	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R5311	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R5312	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R5313	QRE141J-222Y	RESISTOR	2.2kΩ,1/4W
		R5314	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R5317	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
		R5318	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
		R5319	QRE141J-511Y	RESISTOR	510Ω,1/4W
		R5320	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R5321	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
		R5322	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R5323	QRE141J-473Y	RESISTOR	47kΩ,1/4W
		R5324	QRE141J-102Y	RESISTOR	1kΩ,1/4W
		R5331	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R6020	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R6021	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R6022	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		R6023	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R6030	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R6031	NRSA02J-271X	MG RESISTOR	270Ω,1/10W
		R6032	NRSA02J-392X	MG RESISTOR	3.9kΩ,1/10W
		R6033	NRSA02J-182X	MG RESISTOR	1.8kΩ,1/10W
		R6050	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R6051	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R6052	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R6082	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R6508	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R6510	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R6553	QRE141J-0R0Y	RESISTOR	0Ω,1/4W
		R6554	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R7530	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
		VR2251	QVP0039-473Z	TRIM RESISTOR,A.REC.FM	
		C1	QEKJ1CM-106	E CAPACITOR	10μF,16V
		C3	NCF21CZ-105X	CAPACITOR	1μF,16V
		C5	NCF21CZ-105X	CAPACITOR	1μF,16V
		C6	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C7	QETN1CM-107	E CAPACITOR	100μF,16V
		C9	NCF21CZ-105X	CAPACITOR	1μF,16V
		C11	NCF21CZ-105X	CAPACITOR	1μF,16V
		C12	NCB21EK-473X	CAPACITOR	0.047μF,25V
		C13	QERF1HM-335	E CAPACITOR	3.3μF,50V
		C14	NCB21EK-333X	CAPACITOR	0.033μF,25V
		C16	NCF21CZ-105X	CAPACITOR	1μF,16V
		C19	NDC21HJ-470X	CAPACITOR	47pF,50V
		C20	QEKJ1HM-225	E CAPACITOR	2.2μF,50V
		C21	NCB21CK-563X	CAPACITOR	0.056μF,16V
		C23	NCB21HK-223X	CAPACITOR	0.022μF,50V
		C24	NCB21CK-474X	CAPACITOR	0.47μF,16V
		C25	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C27	NDC21HJ-101X	CAPACITOR	100pF,50V
		C29	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
		C30	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
		C31	NCB21HK-223X	CAPACITOR	0.022μF,50V
		C32	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C34	QFVF1HJ-104Z	F CAPACITOR	0.1μF,50V
		C37	QEKJ1CM-476	E CAPACITOR	47μF,16V
		C41	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C42	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C43	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C45	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C46	NDC21HJ-101X	CAPACITOR	100pF,50V
		C47	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C48	QEKJ0JM-476	E CAPACITOR	47μF,6.3V
		C49	NDC21HJ-221X	CAPACITOR	220pF,50V
		C54	QEKJ1CM-106	E CAPACITOR	10μF,16V
		C55	QEKJ1CM-106	E CAPACITOR	10μF,16V
		C56	QEKJ1HM-335	E CAPACITOR	3.3μF,50V
		C57	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C58	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C59	NCB21EK-473X	CAPACITOR	0.047μF,25V
		C62	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C63	NDC21HG-151X	CAPACITOR	150pF,50V
		C64	QEKJ0JM-227	E CAPACITOR	220μF,6.3V
		C65	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C73	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C74	NRSA02J-0R0X	MG RESISTOR	0Ω, 1/10W
		C76	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C77	NDC21HJ-270X	CAPACITOR	27pF,50V

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		C79	NDC21HJ-120X	CAPACITOR	12pF,50V
		C85	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C86	QEKJ1CM-476	E CAPACITOR	47μF,16V
		C87	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C88	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C89	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C90	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C91	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C92	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
		C98	NCF21CZ-105X	CAPACITOR	1μF,16V
		C107	NDC21HJ-5R0X	CAPACITOR	5pF,50V
		C134	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C141	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C201	QEKJ0JM-227	E CAPACITOR	220μF,6.3V
		C204	NDC21HJ-100X	CAPACITOR	10pF,50V
		C206	NDC21HJ-330X	CAPACITOR	33pF,50V
		C207	NDC21HJ-330X	CAPACITOR	33pF,50V
		C209	NCB21CK-474X	CAPACITOR	0.47μF,16V
		C212	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C213	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
		C214	NCB21CK-224X	CAPACITOR	0.22μF,16V
		C215	NCB21CK-224X	CAPACITOR	0.22μF,16V
		C216	QEKJ0JM-227	E CAPACITOR	220μF,6.3V
		C217	NDC21HJ-560X	CAPACITOR	56pF,50V
		C218	NCB21AK-105X	CAPACITOR	1μF,10V
		C222	NCB21AK-105X	CAPACITOR	1μF,10V
		C402	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C403	NDC21HJ-150X	CAPACITOR	15pF,50V
		C404	NCB21HK-102X	CAPACITOR	0.001μF,50V
		C406	NDC21HJ-470X	CAPACITOR	47pF,50V
		C407	NCB21HK-223X	CAPACITOR	0.022μF,50V
		C408	NDC21HJ-121X	CAPACITOR	120pF,50V
		C409	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C2002	QEKJ1CM-476	E CAPACITOR	47μF,16V
		C2003	NCB21HK-123X	CAPACITOR	0.012μF,50V
		C2004	QEKJ1CM-226	E CAPACITOR	22μF,16V
		C2005	NCB21HK-102X	CAPACITOR	0.001μF,50V
		C2006	NCB21HK-331X	CAPACITOR	330pF,50V
		C2007	QEKJ1CM-106	E CAPACITOR	10μF,16V
		C2008	NCB21HK-152X	CAPACITOR	0.0015μF,50V
		C2009	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
		C2010	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
		C2011	NCB21EK-333X	CAPACITOR	0.033μF,25V
		C2013	NCB21EK-333X	CAPACITOR	0.033μF,25V
		C2015	QEKJ1CM-226	E CAPACITOR	22μF,16V
		C2016	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
		C2051	NCB21HK-331X	CAPACITOR	330pF,50V
		C2052	QFLC1HJ-333Z	F CAPACITOR	0.033μF,50V
		C2053	NCB21HK-332X	CAPACITOR	0.0033μF,50V
		C2054	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C2055	QEKJ1CM-106	E CAPACITOR	10μF,16V
		C2061	QFLC1HJ-333Z	F CAPACITOR	0.033μF,50V
		C2062	NCB21HK-332X	CAPACITOR	0.0033μF,50V
		C2063	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C2064	QEKJ1CM-106	E CAPACITOR	10μF,16V
		C2101	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
		C2102	QEKJ1CM-226	E CAPACITOR	22μF,16V
		C2151	NDC21HJ-101X	CAPACITOR	100pF,50V
		C2152	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C2201	QEKJ1HM-104	E CAPACITOR	0.1μF,50V
		C2202	QEKJ1HM-104	E CAPACITOR	0.1μF,50V

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		C2204	QEKJ1CM-226	E CAPACITOR	22μF,16V
		C2205	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
		C2206	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
		C2207	QEKJ0JM-476	E CAPACITOR	47μF,6.3V
		C2208	QEKJ1CM-106	E CAPACITOR	10μF,16V
		C2209	QEKJ1CM-106	E CAPACITOR	10μF,16V
		C2210	QEKJ1CM-106	E CAPACITOR	10μF,16V
		C2211	QEKJ1CM-106	E CAPACITOR	10μF,16V
		C2212	QEKJ0JM-476	E CAPACITOR	47μF,6.3V
		C2213	QERF0JM-476	E CAPACITOR(S8600EK)	47μF,6.3V
			QTE1E41-476	E CAPACITOR(S9600EK)	47μF,25V
		C2214	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C2215	QEKJ1CM-106	E CAPACITOR	10μF,16V
		C2216	QEKJ1HM-105	E CAPACITOR	1μF,50V
		C2217	QEKJ1HM-105	E CAPACITOR	1μF,50V
		C2218	QEKJ1CM-106	E CAPACITOR(S8600EK)	10μF,16V
			QTE1E42-226	E CAPACITOR(S9600EK)	22μF,25V
		C2219	QEKJ1CM-106	E CAPACITOR(S8600EK)	10μF,16V
			QTE1E42-226	E CAPACITOR(S9600EK)	22μF,25V
		C2220	QEKJ1CM-476	E CAPACITOR(S8600EK)	47μF,16V
			QTE1E41-476	E CAPACITOR(S9600EK)	22μF,25V
		C2221	QEKJ1CM-106	E CAPACITOR	10μF,16V
		C2222	QEKJ1CM-226	E CAPACITOR	22μF,16V
		C2225	QEKJ1HM-224	E CAPACITOR	0.22μF,50V
		C2226	QEKJ1CM-106	E CAPACITOR	10μF,16V
		C2227	QEKJ1CM-106	E CAPACITOR	10μF,16V
		C2230	NCB21CK-473X	CAPACITOR	0.047μF,16V
		C2231	NCB21HK-153X	CAPACITOR	0.015μF,50V
		C2232	QEKJ1HM-224	E CAPACITOR	0.22μF,50V
		C2233	NCB21HK-153X	CAPACITOR	0.015μF,50V
		C2234	NCB21CK-473X	CAPACITOR	0.047μF,16V
		C2251	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C2252	NCB21HK-222X	CAPACITOR	0.0022μF,50V
		C2253	NCB21HK-222X	CAPACITOR	0.0022μF,50V
		C2256	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C2257	QERF0JM-476	E CAPACITOR	47μF,6.3V
		C2258	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C2259	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C2261	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C2262	NDC21HJ-101X	CAPACITOR	100pF,50V
		C2263	NDC21HJ-101X	CAPACITOR	100pF,50V
		C2501	QEKJ0JM-107	E CAPACITOR	100μF,6.3V
		C2502	NCB21HK-562X	CAPACITOR	0.0056μF,50V
		C2503	QERF1HM-105	E CAPACITOR	1μF,50V
		C2505	QEKJ0JM-107	E CAPACITOR	100μF,6.3V
		C2506	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C2507	NBE20JM-226X	T CAPACITOR	22μF,6.3V
		C2508	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C2509	NBE20JM-106X	T CAPACITOR	10μF,6.3V
		C2510	QEKJ1CM-476	E CAPACITOR	47μF,16V
		C2511	NCB21HK-222X	CAPACITOR	0.0022μF,50V
		C2512	NDC21HJ-331X	CAPACITOR	330pF,50V
		C2513	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C2518	NCB21HK-102X	CAPACITOR	0.001μF,50V
		C2519	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C2520	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C3002	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C3003	QEKJ1HM-106	E CAPACITOR	10μF,50V
		C3004	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C3011	QETL0JM-478	E CAPACITOR	4700μF,6.3V
		C3012	QEKJ0JM-107	E CAPACITOR	100μF,6.3V

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	C3013	NCB21HK-103X	CAPACITOR	0.01µF,50V
	C3014	NBE20JM-226X	T CAPACITOR	22µF,6.3V
	C3016	NCB21EK-104X	CAPACITOR	0.1µF,25V
	C3019	NDC21HJ-101X	CAPACITOR	100pF,50V
	C3020	NDC21HJ-101X	CAPACITOR	100pF,50V
	C3021	NDC21HJ-101X	CAPACITOR	100pF,50V
	C3022	NCB21EK-104X	CAPACITOR	0.1µF,25V
	C3023	NBE20JM-106X	T CAPACITOR	10µF,6.3V
	C3024	NDC21HJ-120X	CAPACITOR	12pF,50V
	C3026	NCB21HK-103X	CAPACITOR	0.01µF,50V
	C3027	NBE20JM-106X	T CAPACITOR	10µF,6.3V
	C3028	NDC21HJ-101X	CAPACITOR	100pF,50V
	C3029	NDC21HJ-101X	CAPACITOR	100pF,50V
	C3030	NBE20JM-226X	T CAPACITOR	22µF,6.3V
	C3031	NCB21EK-104X	CAPACITOR	0.1µF,25V
	C3032	NCB21EK-104X	CAPACITOR	0.1µF,25V
	C3033	NCB21EK-104X	CAPACITOR	0.1µF,25V
	C3036	NDC21HJ-180X	CAPACITOR	18pF,50V
	C3037	NDC21HJ-120X	CAPACITOR	12pF,50V
	C3040	NCF21CZ-105X	CAPACITOR	1µF,16V
	C3041	NDC21HJ-100X	CAPACITOR	10pF,50V
	C3301	NBE20JM-226X	T CAPACITOR	22µF,6.3V
	C3302	NCB21HK-103X	CAPACITOR	0.01µF,50V
	C3304	NCB21HK-103X	CAPACITOR	0.01µF,50V
	C3501	NCB21HK-103X	CAPACITOR	0.01µF,50V
	C3502	QEKJ1EM-335	E CAPACITOR	3.3µF,25V
	C3503	NCB21EK-104X	CAPACITOR	0.1µF,25V
	C3961	NCB21EK-104X	CAPACITOR	0.1µF,25V
	C4001	NBE20JM-226X	T CAPACITOR	22µF,6.3V
	C4002	NCB21EK-104X	CAPACITOR	0.1µF,25V
	C4003	NCB21HK-102X	CAPACITOR	0.001µF,50V
	C4004	NBE20JM-226X	T CAPACITOR	22µF,6.3V
	C4005	NCB21HK-222X	CAPACITOR	0.0022µF,50V
	C4006	NBE40JM-476X	T CAPACITOR	47µF,6.3V
	C4007	NCB21HK-561X	CAPACITOR	560pF,50V
	C4008	NCB21AK-105X	CAPACITOR	1µF,10V
	C4009	NCB21HK-563X	CAPACITOR	0.056µF,50V
	C4010	NCB21EK-223X	CAPACITOR	0.022µF,25V
	C4011	NCB21EK-104X	CAPACITOR	0.1µF,25V
	C4012	NCB21EK-224X	CAPACITOR	0.22µF,25V
	C4013	NCB21HK-563X	CAPACITOR	0.056µF,50V
	C4014	NDC21HJ-101X	CAPACITOR	100pF,50V
	C4015	NCB21HJ-102X	CAPACITOR	0.001µF,50V
⚠	C5001	QFZ9051-683	F CAPACITOR	0.068µF,250V
⚠	C5002	QFZ9051-333	F CAPACITOR	0.033µF,250V
⚠	C5005	QCZ9071-222	CAPACITOR	0.0022µF,250V
	C5006	QEZ0375-686	E CAPACITOR	68µF,400V
	C5101	QCZ0212-472	CAPACITOR	0.0047µF,1kV
	C5102	QCZ0302-330Z	CAPACITOR	33pF,1kV
	C5104	QETN1HM-105	E CAPACITOR	1µF,50V
	C5105	QFN31HJ-183	F CAPACITOR	0.018µF,50V
	C5106	QCBB1HJ-271	CAPACITOR	270pF,50V
	C5107	QFV91HJ-104	F CAPACITOR	0.1µF,50V
	C5110	QCZ0302-330Z	CAPACITOR	33pF,1kV
	C5201	QEMU0JM-227	E CAPACITOR	220µF,6.3V
	C5202	QEMT1CM-128	E CAPACITOR	1200µF,16V
	C5203	QEMT1AM-228	E CAPACITOR	2200µF,10V
	C5204	QETN2AM-475	E CAPACITOR	4.7µF,100V
	C5205	QETN1HM-106	E CAPACITOR	10µF,50V
	C5206	QEMU1EM-187	E CAPACITOR	180µF,25V
	C5207	QETN1CM-227	E CAPACITOR	220µF,16V
	C5208	QETN1AM-227	E CAPACITOR	220µF,10V
	C5301	QEMU0JM-227	E CAPACITOR	220µF,6.3V
	C5302	QEKC1CM-106	E CAPACITOR	10µF,16V
	C5303	QETN1CM-107	E CAPACITOR	100µF,16V
	C5304	QFLC1HJ-183Z	F CAPACITOR	0.018µF,50V
	C5305	NCB21HK-103X	CAPACITOR	0.01µF,50V
	C5306	QETN1AM-107	E CAPACITOR	100µF,10V
	C5307	QETN1CM-226	E CAPACITOR	22µF,16V
	C5308	QETN1EM-476	E CAPACITOR	47µF,25V
	C5309	QETN1CM-107	E CAPACITOR	100µF,16V
	C5310	QEKJ1HM-105	E CAPACITOR	1µF,50V
	C6006	NCB21HK-103X	CAPACITOR	0.01µF,50V
	C6007	QETN1AM-337	E CAPACITOR	330µF,10V
	C6008	NCB21HK-103X	CAPACITOR	0.01µF,50V
	C6012	QEKJ1CM-476	E CAPACITOR	47µF,16V
	C6013	NCB21HK-103X	CAPACITOR	0.01µF,50V
	C6014	NCB21HK-103X	CAPACITOR	0.01µF,50V
	C6016	NCB21HK-103X	CAPACITOR	0.01µF,50V
	C6020	NDC21HJ-101X	CAPACITOR	100pF,50V
	C6021	NDC21HJ-101X	CAPACITOR	100pF,50V
	C6022	NDC21HJ-101X	CAPACITOR	100pF,50V
	C6032	NCB21HK-473X	CAPACITOR	0.047µF,50V
	C6033	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	C6037	QEKJ1HM-106	E CAPACITOR	10µF,50V
	C6055	NDC21HJ-220X	CAPACITOR	22pF,50V
	L1	QQL29BJ-100Z	COIL	10µH
	L3	QQL071J-6R8Y	COIL	6.8µH
	L4	QQL29BJ-100Z	COIL	10µH
	L7	QQL29BJ-100Z	COIL	10µH
	L9	QQL29BJ-100Z	COIL	10µH
	L12	QQL071J-330Y	COIL	33µH
	L13	QQL071J-120Y	COIL	12µH
	L14	QQL071J-820Y	COIL	82µH
	L16	QQL29BJ-100Z	COIL	10µH
	L18	QQR0967-001	COIL	12µH
	L201	QQL29BK-1R0Z	COIL	1µH
	L202	QQL071J-330Y	COIL	33µH
	L203	QQL071J-220Y	COIL	22µH
	L204	QQL29BJ-100Z	COIL	10µH
	L206	QQL071J-220Y	COIL	22µH
	L401	QQL071J-100Y	COIL	10µH
	L402	QQL231J-150Y	COIL	15µH
	L2251	QQL29BJ-100Z	COIL	10µH
	L2501	QQL29BJ-2R2Z	COIL	2.2µH
	L3011	NQL03BK-330X	COIL	33µH
	L3012	NQL03BK-330X	COIL	33µH
	L5201	PELN1184	COIL	33µH
	L5202	PU60944-330K	COIL	33µH
	L6004	QQL29BJ-100Z	COIL	10µH
	L6031	QQL29BK-1R0Z	COIL	1µH
	LPF2501	PELN1137	LOW PASS FILTER	
	CF2501	QAX0399-001Z	RESONATOR	
	CF3301	PU60440-2	RESONATOR	
	LC2501	QQL29BJ-100Z	COIL	10µH
	X1	QAX0530-001	CRYSTAL RESONATOR	
	X3001	QAX0444-001	CRYSTAL RESONATOR	
	X3002	QAX0527-001	CRYSTAL RESONATOR	
	S3002	QSW0695-001	PUSH SWITCH	
	K5101	QQR0678-001Z	FERRITE BEAD	
	PC3001	GP3S123	IC(PHOTO SENSOR	
	PC3002	GP3S123	IC(PHOTO SENSOR	

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION
	⚠	PC5101	PC123F2	PH COUPLER
	⚠	PC5301	PS2501-1	PH COUPLER
		T2051	PELN0860	OSC TRANSFORMER
		T2052	PELN0861	OSC TRANSFORMER
	⚠	T5001	QQS0033-001	SW TRANSFORMER
		TU6001	QAU0107-001	TUNER
		ET1	PQ21623-1-5	EARTH PLATE(RF)
		ET2	LP40547-001A	EARTH PLATE
		SD1	LP30563-001B	SHIELD CASE(PRE/REC)
	⚠	HS1	LP40515-001A	HEAT SINK,Q5101
		HS2	LP40479-001B	HEAT SINK,IC5301
		OT1	QYTDSF3010Z	SCREW,X2TERMINAL
		OT2	QYTDST3008Z	SCREW,Q5101
		OT3	QYTDST3006Z	SCREW.IC5301
		OT4	PU59915-105	#500SPACER0.01,C2213(S9600EK)
		FC5001	QNG0006-001Z	FUSE CLIP
		FC5002	QNG0006-001Z	FUSE CLIP
	⚠	LF5001	PELN1204-01-01	LINE FILTER
	⚠	LF5002	QQR0608-001	LINE FILTER
		CN1	QGF1028C1-13	FPC CONNECTOR,(1-13)U.DRUM
		CN2001	QGF1207C1-07	FPC CONNECTOR,(1-7)A/C HEAD
		CN2002	QGB2532J1-02	CONNECTOR,(1-2)FE HEAD
		CN3001	QGF1207C1-05	FPC CONNECTOR,(1-5)DRUM MDA
		CN3002	QGB2532J1-02	CONNECTOR,(1-2)LOADING MOTOR
		CN3003	QGB2015M2-08	CONNECTOR,(1-8)CAPSTAN MOTOR
		CN3004	QGB2534J2-04	CONNECTOR,(1-4)ROTARY ENCODER
		CN3011	QGF1207C1-14	FPC CONNECTOR,(1-14)FRONT
		CN3012	QGF1207C1-06	FPC CONNECTOR,(1-6)JOG,S8600EK
		CN3501	QGB2011L2-06	CONNECTOR,(1-6)DD MOTOR
	⚠	CN5001	QGA7901C3-02	CONNECTOR,(1-2)AC IN
		CN7501	QGB2024K1-09S	CONNECTOR,(1-9)TERMINAL
		CN7502	QGB2024K1-10S	CONNECTOR,(1-10)TERMINAL
		CN7503	QGB2024K1-10S	CONNECTOR,(1-10)TERMINAL
		CN7504	QGF1207C1-05	CONNECTOR,(1-5)
	⚠	CP4001	ICP-N15	CIRCUIT PROTECTOR
	⚠	CP5301	ICP-N38	CIRCUIT PROTECTOR
	⚠	CP5302	ICP-N25	CIRCUIT PROTECTOR
	⚠	F5001	QMF51E2-2R0J1	FUSE T2.0A,AC250V

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3D SVHS BOARD ASSEMBLY <05>

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION
		PW1	LPA10033-10A	3D SVHS BOARD ASSY
		IC1001	JCP8008	IC
		IC1002	VC2076MP-XE	IC
		IC1006	HA118092FP1	IC
		IC1007	BA10358F-XE	IC
		IC1401	JCP8010-2	IC(DIGITAL)
		IC1402	MN47V77S-XE	IC
		Q1004	DTC144WU	TRANSISTOR
			or RN1309	TRANSISTOR
			or UN521E	TRANSISTOR
		Q1005	DTC144WU	TRANSISTOR
			or RN1309	TRANSISTOR
			or UN521E	TRANSISTOR
		Q1006	2SA1576A/QR/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
		Q1007	2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
		Q1012	2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
		Q1014	2SC4081/QRS/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q1015	2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
		Q1016	DTC144WU	TRANSISTOR
			or RN1309	TRANSISTOR
			or UN521E	TRANSISTOR
		Q1021	2SA1576A/QR/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
		Q1022	DTC144WU	TRANSISTOR
			or RN1309	TRANSISTOR
			or UN521E	TRANSISTOR
		Q1401	2SC1317/RS/-T	TRANSISTOR
		Q1402	2SC4081/QRS/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q1403	2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
		Q1404	2SC4081/S/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q1405	2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
		Q1406	2SA1576A/QR/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
		Q1407	2SA1576A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
		Q1408	2SA1576A/QR/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
		Q1409	2SA1576A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
		Q1410	2SC4081/QRS/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q1411	2SA1576A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
		Q1412	DTC144WU	TRANSISTOR
			or RN1309	TRANSISTOR
			or UN521E	TRANSISTOR
		Q1413	DTC144WU	TRANSISTOR
			or RN1309	TRANSISTOR
			or UN521E	TRANSISTOR
		Q1414	DTC144WU	TRANSISTOR
			or UN521E	TRANSISTOR

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
			or RN1309	TRANSISTOR	
		Q1416	DTC144WU	TRANSISTOR	
			or RN1309	TRANSISTOR	
			or UN521E	TRANSISTOR	
		Q1417	2SC4081/QRS/-X	TRANSISTOR	
			or 2PC4081/R/-X	TRANSISTOR	
			or 2SD1819A/QRS/-X	TRANSISTOR	
		Q1418	2SC4081/QRS/-X	TRANSISTOR	
			or 2SD1819A/QRS/-X	TRANSISTOR	
			or 2PC4081/R/-X	TRANSISTOR	
		D1002	1SS133	DIODE	
			or 1N4148M	DIODE	
		D1003	1SS133	DIODE	
			or 1N4148M	DIODE	
		D1004	1SS133	DIODE	
			or 1N4148M	DIODE	
		D1006	1SS133	DIODE	
			or 1N4148M	DIODE	
		D1401	RD4.3ES/B2/-T2	ZENER DIODE	
			or MTZJ4.3B	ZENER DIODE	
		D1402	1SS133	DIODE	
			or 1N4148M	DIODE	
		R1002	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R1003	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
		R1004	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R1008	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R1009	NRSA02J-125X	MG RESISTOR	1.2MΩ,1/10W
		R1010	NRVA02D-332X	CMF RESISTOR	3.3kΩ,1/10W
		R1011	NRVA02D-332X	CMF RESISTOR	3.3kΩ,1/10W
		R1012	NRVA02D-152X	CMF RESISTOR	1.5kΩ,1/10W
		R1013	NRVA02D-471X	CMF RESISTOR	470Ω,1/10W
		R1014	NRVA02D-102X	CMF RESISTOR	1kΩ,1/10W
		R1015	NRVA02D-102X	CMF RESISTOR	1kΩ,1/10W
		R1016	NRSA02J-122X	MG RESISTOR	1.2kΩ,1/10W
		R1017	NRSA02J-162X	MG RESISTOR	1.6kΩ,1/10W
		R1018	NRSA02J-151X	MG RESISTOR	150Ω,1/10W
		R1019	NRSA02J-391X	MG RESISTOR	390Ω,1/10W
		R1020	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
		R1021	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
		R1023	NRSA02J-272X	MG RESISTOR	2.7kΩ,1/10W
		R1025	NRSA02J-823X	MG RESISTOR	82kΩ,1/10W
		R1026	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R1027	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
		R1028	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
		R1029	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R1030	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R1031	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
		R1032	NRSA02J-181X	MG RESISTOR	180Ω,1/10W
		R1035	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R1037	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R1038	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R1039	NRSA02J-394X	MG RESISTOR	390kΩ,1/10W
		R1045	NRSA02J-272X	MG RESISTOR	2.7kΩ,1/10W
		R1046	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
		R1047	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R1048	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R1049	NRSA02J-475X	MG RESISTOR	4.7MΩ,1/10W
		R1053	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R1054	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
		R1055	NRVA02D-563X	CMF RESISTOR	56kΩ,1/10W
		R1056	NRVA02D-224X	CMF RESISTOR	220kΩ,1/10W

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		R1058	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
		R1059	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R1060	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R1063	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
		R1064	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
		R1065	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R1066	NRSA02J-272X	MG RESISTOR	2.7kΩ,1/10W
		R1067	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R1068	NRSA02J-361X	MG RESISTOR	360Ω,1/10W
		R1069	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R1070	NRSA02J-391X	MG RESISTOR	390Ω,1/10W
		R1071	NRSA02J-104X	MG RESISTOR	100kΩ,1/10W
		R1072	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
		R1073	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R1401	NRSA02J-331X	MG RESISTOR	330Ω,1/10W
		R1402	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R1403	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
		R1404	NRSA02J-123X	MG RESISTOR	12kΩ,1/10W
		R1405	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R1406	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R1407	NRSA02J-821X	MG RESISTOR	820Ω,1/10W
		R1408	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R1409	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
		R1410	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
		R1411	NRSA02J-243X	MG RESISTOR	24kΩ,1/10W
		R1412	NRSA02J-104X	MG RESISTOR	100kΩ,1/10W
		R1413	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R1414	NRSA02J-331X	MG RESISTOR	330Ω,1/10W
		R1415	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R1416	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R1417	NRSA02J-821X	MG RESISTOR	820Ω,1/10W
		R1418	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R1419	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
		R1420	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
		R1422	NRSA02J-391X	MG RESISTOR	390Ω,1/10W
		R1423	NRSA02J-821X	MG RESISTOR	820Ω,1/10W
		R1425	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R1428	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R1429	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R1430	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R1431	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R1432	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R1433	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R1434	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R1435	NRSA02J-242X	MG RESISTOR	2.4kΩ,1/10W
		R1436	NRSA02J-153X	MG RESISTOR	15kΩ,1/10W
		R1437	NRSA02J-123X	MG RESISTOR	12kΩ,1/10W
		R1438	NRSA02J-821X	MG RESISTOR	820Ω,1/10W
		R1439	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R1440	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
		R1442	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
		R1443	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R1444	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
		R1445	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R1446	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R1447	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
		R1448	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R1449	NRSA02J-470X	MG RESISTOR	47Ω,1/10W
		R1451	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
		R1452	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R1454	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
R1455	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
R1456	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
R1457	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R1458	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R1459	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R1460	NRSA02J-104X	MG RESISTOR	100kΩ,1/10W
R1461	NRSA02J-182X	MG RESISTOR	1.8kΩ,1/10W
R1462	NRSA02J-272X	MG RESISTOR	2.7kΩ,1/10W
R1463	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
R1465	NRSA02J-821X	MG RESISTOR	820Ω,1/10W
R1467	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
R1468	NRSA02J-162X	MG RESISTOR	1.6kΩ,1/10W
R1470	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R1471	NRSA02J-333X	MG RESISTOR	33kΩ,1/10W
R1472	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
VR1002	QVZ3521-104Z	V RESISTOR,P.BURST LEVEL ADJ	
VR1401	QVP0039-103Z	TRIM RESISTOR,D/A LEVEL ADJ	
C1001	QEKJ0JM-476	E CAPACITOR	47μF,6.3V
C1002	QEKJ1HM-474	E CAPACITOR	0.47μF,50V
C1003	QEKJ1CM-106	E CAPACITOR	10μF,16V
C1005	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
C1006	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1007	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1010	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1011	NDC21HJ-150X	CAPACITOR	15pF,50V
C1013	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1014	QEKJ1HM-225	E CAPACITOR	2.2μF,50V
C1015	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
C1016	QEKJ1HM-225	E CAPACITOR	2.2μF,50V
C1017	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1019	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1020	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1021	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1022	QEKJ1HM-105	E CAPACITOR	1μF,50V
C1023	QEKJ1HM-225	E CAPACITOR	2.2μF,50V
C1024	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1026	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1027	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1028	QEKJ0JM-337	E CAPACITOR	330μF,6.3V
C1029	QEKJ1HM-104	E CAPACITOR	0.1μF,50V
C1030	QEKJ1HM-105	E CAPACITOR	1μF,50V
C1031	QEKJ1HM-225	E CAPACITOR	2.2μF,50V
C1033	QEKJ1HM-105	E CAPACITOR	1μF,50V
C1034	QEPF1HM-105	NP E CAPACITOR	1μF,50V
C1035	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
C1036	QEKJ0JM-226	E CAPACITOR	22μF,6.3V
C1037	QEKJ1HM-225	E CAPACITOR	2.2μF,50V
C1038	QEKJ1HM-225	E CAPACITOR	2.2μF,50V
C1039	QEKJ1CM-476	E CAPACITOR	47μF,16V
C1040	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1041	NDC21HG-301X	CAPACITOR	300pF,50V
C1042	NDC21HG-301X	CAPACITOR	300pF,50V
C1043	NDC21HG-221X	CAPACITOR	220pF,50V
C1044	NDC21HG-820X	CAPACITOR	82pF,50V
C1045	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1046	NDC21HG-271X	CAPACITOR	270pF,50V
C1047	NDC21HJ-101X	CAPACITOR	100pF,50V
C1048	NDC21HJ-181X	CAPACITOR	180pF,50V
C1049	NDC21HG-301X	CAPACITOR	300pF,50V
C1050	NDC21HG-301X	CAPACITOR	300pF,50V
C1056	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1057	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1058	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1063	NDC21HJ-101X	CAPACITOR	100pF,50V
C1064	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1065	QEKJ0JM-227	E CAPACITOR	220μF,6.3V
C1066	NCB21EK-223X	CAPACITOR	0.022μF,25V
C1067	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1068	QEKJ1HM-105	E CAPACITOR	1μF,50V
C1069	QEKJ1CM-106	E CAPACITOR	10μF,16V
C1070	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1071	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1072	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1073	NDC21HJ-150X	CAPACITOR	15pF,50V
C1074	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1082	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1086	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1087	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1088	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1089	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1092	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1095	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1401	QEKJ1CM-336	E CAPACITOR	33μF,16V
C1402	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1403	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1404	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1405	NDC21HJ-220X	CAPACITOR	22pF,50V
C1406	NDC21HJ-6R0X	CAPACITOR	6pF,50V
C1407	NDC21HJ-390X	CAPACITOR	39pF,50V
C1408	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1409	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1410	QEKJ0JM-337	E CAPACITOR	330μF,6.3V
C1411	QEKJ1CM-106	E CAPACITOR	10μF,16V
C1412	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1413	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1414	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1415	NDC21HJ-221X	CAPACITOR	220pF,50V
C1416	NDC21HJ-391X	CAPACITOR	390pF,50V
C1417	NDC21HJ-680X	CAPACITOR	68pF,50V
C1418	NDC21HJ-8R0X	CAPACITOR	8pF,50V
C1419	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1420	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1421	NDC21HJ-680X	CAPACITOR	68pF,50V
C1422	NDC21HJ-330X	CAPACITOR	33pF,50V
C1424	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1425	QEKJ0JM-337	E CAPACITOR	330μF,6.3V
C1426	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1427	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1428	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1429	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1430	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1431	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1432	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
C1433	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1434	QEKJ0JM-337	E CAPACITOR	330μF,6.3V
C1435	QEKJ1HM-105	E CAPACITOR	1μF,50V
C1436	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1437	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1438	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1439	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1440	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1441	NCF21EZ-104X	CAPACITOR	0.1μF,25V

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		C1442	NCF21EZ-104X	CAPACITOR	0.1µF,25V
		C1443	NCF21EZ-104X	CAPACITOR	0.1µF,25V
		C1444	QEKJ1HM-105	E CAPACITOR	1µF,50V
		C1445	NCF21EZ-104X	CAPACITOR	0.1µF,25V
		C1446	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C1447	NCB21HK-222X	CAPACITOR	0.0022µF,50V
		C1448	NCF21EZ-104X	CAPACITOR	0.1µF,25V
		C1449	QEKJ0JM-337	E CAPACITOR	330µF,6.3V
		C1450	NCF21EZ-104X	CAPACITOR	0.1µF,25V
		C1451	NCF21EZ-104X	CAPACITOR	0.1µF,25V
		C1454	NDC21HJ-220X	CAPACITOR	22pF,50V
		C1455	NDC21HJ-390X	CAPACITOR	39pF,50V
		C1457	NCF21EZ-104X	CAPACITOR	0.1µF,25V
		C1458	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C1459	NDC21HJ-470X	CAPACITOR	47pF,50V
		C1460	NDC21HJ-470X	CAPACITOR	47pF,50V
		C1461	NDC21HJ-470X	CAPACITOR	47pF,50V
		C1462	NDC21HJ-470X	CAPACITOR	47pF,50V
		C1463	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		C1464	NDC21HJ-330X	CAPACITOR	33pF,50V
		C1465	NDC21HJ-470X	CAPACITOR	47pF,50V
		C1468	NDC21HJ-470X	CAPACITOR	47pF,50V
		C1469	NDC21HJ-470X	CAPACITOR	47pF,50V
		C1470	NDC21HJ-470X	CAPACITOR	47pF,50V
		C1471	NDC21HJ-470X	CAPACITOR	47pF,50V
		C1472	NDC21HJ-470X	CAPACITOR	47pF,50V
		C1473	NDC21HJ-470X	CAPACITOR	47pF,50V
		L1001	QQL29BJ-220Z	COIL	22µH
		L1004	QQL071J-680Y	COIL	68µH
		L1006	QQL29BJ-101Z	COIL	100µH
		L1008	QQL29BJ-100Z	COIL	10µH
		L1401	QQL071J-330Y	COIL	33µH
		L1402	QQL29BJ-100Z	COIL	10µH
		L1404	QQL071J-8R2Y	COIL	8.2µH
		L1405	QQL071J-150Y	COIL	15µH
		L1406	QQL071J-6R8Y	COIL	6.8µH
		L1407	QQL29BJ-100Z	COIL	10µH
		L1408	QQL29BJ-100Z	COIL	10µH
		L1409	QQL071J-330Y	COIL	33µH
		L1410	QQL29BJ-4R7Z	COIL	4.7µH
		L1411	QQL071J-1R0Y	COIL	1µH
		LC1401	QQR0657-013Z	NOISE FILTER	
		LC1402	QQR0657-010Z	NOISE FILTER	
		SD1	LP30621-001A	SHIELD CASE(SVHS 3D)	
		SD2	LP30406-001A	SHIELD PLATE(SVHS)	
		BK1	LP40077-001A	BRACKET(BOARD)	
		CN1001	QGG2503K2-30	HEADER PIN	
		CN1002	QGG2503K2-30	HEADER PIN	
		CN1003	QGF1217F1-07	FPC CONNECTOR,(1-7)TERMINAL	

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TERMINAL BOARD ASSEMBLY <06>

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		PW1	LPA10055-01A	TERMINAL BOARD ASSY(S8600EK)	
			LPA10055-04A	TERMINAL BOARD ASSY(S9600EK)	
		IC7101	BH7635S	IC	
		IC7102	MM1231XF	IC	
		Q7102	2SB1218A/QR/-X	TRANSISTOR	
			or 2PA1576/R/-X	TRANSISTOR	
			or 2SA1576A/QR/-X	TRANSISTOR	
		Q7103	2SB1218A/QR/-X	TRANSISTOR	
			or 2SA1576A/QR/-X	TRANSISTOR	
			or 2PA1576/R/-X	TRANSISTOR	
		Q7104	2SB1218A/QR/-X	TRANSISTOR	
			or 2SA1576A/QR/-X	TRANSISTOR	
			or 2PA1576/R/-X	TRANSISTOR	
		Q7107	2SB1218A/QR/-X	TRANSISTOR	
			or 2SA1576A/QR/-X	TRANSISTOR	
			or 2PA1576/R/-X	TRANSISTOR	
		Q7108	2SD1819A/QRS/-X	TRANSISTOR	
			or 2PC4081/R/-X	TRANSISTOR	
			or 2SC4081/QRS/-X	TRANSISTOR	
		Q7109	2SD1819A/QRS/-X	TRANSISTOR	
			or 2SC4081/QRS/-X	TRANSISTOR	
			or 2PC4081/R/-X	TRANSISTOR	
		Q7110	2SD1819A/QRS/-X	TRANSISTOR	
			or 2PC4081/R/-X	TRANSISTOR	
			or 2SC4081/QRS/-X	TRANSISTOR	
		Q7111	UN5211	TRANSISTOR	
			or RN1302	TRANSISTOR	
			or DTC114EU	TRANSISTOR	
			or PDTC114EU	TRANSISTOR	
		Q7112	2SD1819A/QRS/-X	TRANSISTOR	
			or 2SC4081/QRS/-X	TRANSISTOR	
			or 2PC4081/R/-X	TRANSISTOR	
		R7104	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
		R7105	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
		R7106	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
		R7107	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
		R7108	QRE123J-391X	RESISTOR	390Ω,1/2W
		R7109	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R7110	QRE123J-391X	RESISTOR	390Ω,1/2W
		R7111	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R7112	NRSA02J-181X	MG RESISTOR	180Ω,1/10W
		R7113	NRSA02J-431X	MG RESISTOR	430Ω,1/10W
		R7114	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R7116	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R7117	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R7121	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
		R7123	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R7124	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R7125	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R7126	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R7127	QRE141J-750Y	RESISTOR	75Ω,1/4W
		R7128	QRE141J-103Y	RESISTOR	10kΩ,1/4W
		R7129	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R7130	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
		R7131	QRE123J-391X	RESISTOR	390Ω,1/2W
		R7132	NRSA02J-680X	MG RESISTOR	68Ω,1/10W
		R7133	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
		R7134	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R7135	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R7136	NRSA02J-272X	MG RESISTOR	2.7kΩ,1/10W
		R7137	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R7138	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
		R7139	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
		R7140	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
		R7141	NRSA02J-101X	MG RESISTOR	100Ω,1/10W

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
R7142	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R7143	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
R7144	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
R7145	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R7146	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R7147	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
R7149	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
R7157	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R7162	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
C7102	QETJ0JM-477	E CAPACITOR	470µF,6.3V
C7103	NCB21HK-103X	CAPACITOR	0.01µF,50V
C7104	QEKJ1CM-476	E CAPACITOR	47µF,16V
C7105	NCB21HK-103X	CAPACITOR	0.01µF,50V
C7106	NCB21HK-223X	CAPACITOR	0.022µF,50V
C7108	NCB21HK-223X	CAPACITOR	0.022µF,50V
C7109	QEKJ1CM-476	E CAPACITOR	47µF,16V
C7110	NCB21HK-103X	CAPACITOR	0.01µF,50V
C7112	NDC21HJ-330X	CAPACITOR	33pF,50V
C7113	NCB21HK-223X	CAPACITOR	0.022µF,50V
C7114	NCB21HK-223X	CAPACITOR	0.022µF,50V
C7115	NCB21HK-681X	CAPACITOR	680pF,50V
C7116	NCB21HK-681X	CAPACITOR	680pF,50V
C7119	NCB21HK-102X	CAPACITOR	0.001µF,50V
C7120	NCB21HK-102X	CAPACITOR	0.001µF,50V
C7124	QEKJ1CM-476	E CAPACITOR	47µF,16V
C7125	QEKJ1CM-476	E CAPACITOR	47µF,16V
C7126	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
C7127	NCB21HK-103X	CAPACITOR	0.01µF,50V
C7128	NCB21HK-681X	CAPACITOR	680pF,50V
C7129	NCB21HK-681X	CAPACITOR	680pF,50V
C7133	NCB21HK-102X	CAPACITOR	0.001µF,50V
C7134	NCB21HK-102X	CAPACITOR	0.001µF,50V
C7137	QEKJ1CM-107	E CAPACITOR	100µF,16V
C7138	NCB21HK-103X	CAPACITOR	0.01µF,50V
C7139	NCB21HK-103X	CAPACITOR	0.01µF,50V
C7140	NCB21HK-103X	CAPACITOR	0.01µF,50V
C7142	NCB21HK-103X	CAPACITOR	0.01µF,50V
C7143	QEKJ1CM-106	E CAPACITOR	10µF,16V
C7144	NCB21HK-103X	CAPACITOR	0.01µF,50V
C7146	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
C7147	QEKJ1CM-106	E CAPACITOR	10µF,16V
C7148	NDC21HJ-101X	CAPACITOR	100pF,50V
C7150	NCB21HK-102X	CAPACITOR	0.001µF,50V
C7152	NCB21HK-102X	CAPACITOR	0.001µF,50V
C7158	NDC21HJ-470X	CAPACITOR	47pF,50V
C7161	QEKJ1CM-476	E CAPACITOR	47µF,16V
L7105	QQL231J-1R0Y	COIL	1µH
L7107	QQL231J-R22Y	COIL	0.22µH
L7108	QQL231J-4R7Y	COIL	4.7µH
L7109	QQL231J-4R7Y	COIL	4.7µH
L7110	QQL231J-4R7Y	COIL	4.7µH
L7111	QQL231J-4R7Y	COIL	4.7µH
L7112	QQL231J-1R0Y	COIL	1µH
L7113	QQL231J-4R7Y	COIL	4.7µH
L7114	QQL231J-4R7Y	COIL	4.7µH
L7115	QQL231J-4R7Y	COIL	4.7µH
L7116	QQL231J-4R7Y	COIL	4.7µH
L7121	QQL231J-4R7Y	COIL	4.7µH
L7123	QQL231J-4R7Y	COIL	4.7µH
SW7101	QSW0693-001	SLIDE SWITCH	
ET1	PQ21987-1-1	EARTH PLATE(TERMINAL)	

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION
TB1	LP30562-001A	TERMINAL BOARD ASSY
OT1	QYTDSF3008Z	SCREW,X8
J7101	PEMC1177	RGB21PIN SOCKET,AV1
J7102	PEMC1177	RGB21PIN SOCKET,AV2
J7103	QNN0023-002	PIN JACK,A.(R)OUT(S8600EK)
	QNN0021-002	PIN JACK,A.(R)OUT(S9600EK)
J7104	QNN0021-003	PIN JACK,A.(L)OUT(S9600EK)
	QNN0023-003	PIN JACK,A.(L)OUT(S8600EK)
J7107	QND0009-001	S JACK,S OUT(S8600EK)
	QND0010-001	S JACK,S OUT(S9600EK)
J7108	PEMC1190	MINI JACK,JLIP
J7109	QNS0150-001	2.5 JACK,LANC
J7110	PU60659	MINI JACK,R.PAUSE
CN7101	QGB2024J1-09S	CONNECTOR,(1-9)MAIN
CN7102	QGB2024J1-10S	CONNECTOR,(1-10)MAIN
CN7103	QGB2024J1-10S	CONNECTOR,(1-10)MAIN
CN7104	QGF1208F1-07	FPC CONNECTOR,(1-7)
CN7105	QGF1208F1-04	FPC CONNECTOR,(1-4)

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AUDIO CONTROL HEAD BOARD ASSEMBLY <12>

PW1	LPA10010-01A1	A/C HEAD BOARD ASSY
CN1	QGF1208F1-07	FPC CONNECTOR

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DEMOD BOARD ASSEMBLY <14>

PW1	LPA10060-01B	DEMOD BOARD ASSY	
IC6701	TDA9874H/V1-X	IC	
Q6701	2SC3936/BC/-X	TRANSISTOR	
D6701	1SV214	DIODE	
R6701	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R6703	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R6705	NRSA02J-100X	MG RESISTOR	10Ω,1/10W
R6706	NRSA02J-100X	MG RESISTOR	10Ω,1/10W
R6707	NRSA02J-3R3X	MG RESISTOR	3.3Ω,1/10W
R6708	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R6709	NRSA02J-393X	MG RESISTOR	39kΩ,1/10W
R6710	NRSA02J-393X	MG RESISTOR	39kΩ,1/10W
R6711	NRSA02J-822X	MG RESISTOR	8.2kΩ,1/10W
R6713	NRSA02J-100X	MG RESISTOR	10Ω,1/10W
R6715	NRSA02J-100X	MG RESISTOR	10Ω,1/10W
R6716	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R6717	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R6719	NRSA02J-3R3X	MG RESISTOR	3.3Ω,1/10W
R6720	QRE141J-100Y	RESISTOR	10Ω,1/4W
R6721	NRSA02J-392X	MG RESISTOR	3.9kΩ,1/10W
R6722	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R6723	NRSA02J-470X	MG RESISTOR	47Ω,1/10W
R6724	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
R6725	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R6726	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		C6701	QEKJ1HM-225	E CAPACITOR	2.2μF,50V
		C6702	NCB21HK-682X	CAPACITOR	0.0068μF,50V
		C6703	QEKJ1HM-225	E CAPACITOR	2.2μF,50V
		C6704	NCB21HK-682X	CAPACITOR	0.0068μF,50V
		C6705	NCF21CZ-474X	CAPACITOR	0.47μF,16V
		C6706	NCF21CZ-474X	CAPACITOR	0.47μF,16V
		C6707	NCF21CZ-474X	CAPACITOR	0.47μF,16V
		C6710	QEKJ1HM-334	E CAPACITOR	0.33μF,50V
		C6711	NCB21EK-333X	CAPACITOR	0.033μF,25V
		C6712	NDC21HJ-270X	CAPACITOR	27pF,50V
		C6713	NDC21HJ-270X	CAPACITOR	27pF,50V
		C6716	NCF21CZ-474X	CAPACITOR	0.47μF,16V
		C6718	NCB21EK-224X	CAPACITOR	0.22μF,25V
		C6719	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C6720	QEKJ1HM-105	E CAPACITOR	1μF,50V
		C6722	NCF21CZ-474X	CAPACITOR	0.47μF,16V
		C6723	NDC21HJ-101X	CAPACITOR	100pF,50V
		C6724	NDC21HJ-101X	CAPACITOR	100pF,50V
		C6728	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C6729	QEKJ1HM-225	E CAPACITOR	2.2μF,50V
		C6730	QEKJ1CM-476	E CAPACITOR	47μF,16V
		C6731	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C6732	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C6733	NCB21HK-222X	CAPACITOR	0.0022μF,50V
		C6734	NCB21HK-103X	CAPACITOR	0.01μF,50V
		L6701	QQL231J-3R3Y	COIL	3.3μH
		L6702	QQL231J-1R0Y	COIL	1μH
		L6703	QQL231J-3R3Y	COIL	3.3μH
		X6701	QAX0560-001	CRYSTAL RESONATOR	
		K6701	NQR0200-003X	FERRITE BEAD	
		K6702	NQR0200-003X	FERRITE BEAD	
		K6703	NQR0200-003X	FERRITE BEAD	
		K6704	NQR0200-003X	FERRITE BEAD	
		K6705	NQR0200-003X	FERRITE BEAD	
		K6706	NQR0200-003X	FERRITE BEAD	
		K6707	NQR0200-003X	FERRITE BEAD	
		BK1	LP40077-001A	BRACKET(BOARD)	
		CN6701	QGG2502K1-10	HEADER PIN	

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SW/DISPLAY BOARD ASSEMBLY(S8600EK) <28>

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		PW1	LPA10056-04A1	DISPLAY BOARD ASSY	
		IC7001	M35500BGP	IC	
			or M35500BFP	IC	
			or M35500AGP	IC	
		IC7002	PNA4652M00XB	IR DETECT UNIT	
			or GP1U281X	IR DETECT UNIT	
		D7002	RD9.1ES/B2/-T2	ZENER DIODE	
			or UZ9.1BSB	ZENER DIODE	
			or MTZJ9.1B	ZENER DIODE	
		D7004	1SS133	DIODE	
		D7005	1SS133	DIODE	
		D7006	1SS133	DIODE	
		D7009	SLR-342DC3F	LE DIODE	
		D7010	SLR-342VC3F	LE DIODE	
		D7011	SLR-342MC3F	LE DIODE	
		R7001	QRE141J-471Y	RESISTOR	470Ω,1/4W
		R7002	QRE141J-471Y	RESISTOR	470Ω,1/4W
		R7003	QRE141J-471Y	RESISTOR	470Ω,1/4W
		R7004	QRE141J-471Y	RESISTOR	470Ω,1/4W
		R7005	QRE141J-103Y	RESISTOR	10kΩ,1/4W
		R7006	QRE141J-103Y	RESISTOR	10kΩ,1/4W
		R7007	QRE141J-103Y	RESISTOR	10kΩ,1/4W
		R7008	QRE141J-103Y	RESISTOR	10kΩ,1/4W
		R7009	QRE141J-153Y	RESISTOR	15kΩ,1/4W
		R7010	QRE141J-103Y	RESISTOR	10kΩ,1/4W
		R7013	QRE141J-103Y	RESISTOR	10kΩ,1/4W
		R7020	QRE141J-103Y	RESISTOR	10kΩ,1/4W
		R7021	QRE141J-122Y	RESISTOR	1.2kΩ,1/4W
		R7022	QRE141J-182Y	RESISTOR	1.8kΩ,1/4W
		R7023	QRE141J-222Y	RESISTOR	2.2kΩ,1/4W
		R7024	QRE141J-272Y	RESISTOR	2.7kΩ,1/4W
		R7025	QRE141J-472Y	RESISTOR	4.7kΩ,1/4W
		R7026	QRE141J-682Y	RESISTOR	6.8kΩ,1/4W
		R7027	QRE141J-153Y	RESISTOR	15kΩ,1/4W
		R7028	QRE141J-393Y	RESISTOR	39kΩ,1/4W
		R7030	QRE141J-103Y	RESISTOR	10kΩ,1/4W
		R7031	QRE141J-122Y	RESISTOR	1.2kΩ,1/4W
		R7032	QRE141J-182Y	RESISTOR	1.8kΩ,1/4W
		R7033	QRE141J-222Y	RESISTOR	2.2kΩ,1/4W
		R7034	QRE141J-153Y	RESISTOR	15kΩ,1/4W
		R7037	QRE141J-153Y	RESISTOR	15kΩ,1/4W
		R7038	QRE141J-393Y	RESISTOR	39kΩ,1/4W
		R7040	QRE141J-331Y	RESISTOR	330Ω,1/4W
		R7041	QRE141J-331Y	RESISTOR	330Ω,1/4W
		R7042	QRE141J-331Y	RESISTOR	330Ω,1/4W
		C7001	QCFB1HZ-104	CAPACITOR	0.1μF,50V
		C7002	QETC1HM-106	E CAPACITOR	10μF,50V
		C7007	QETN1HM-476	E CAPACITOR	47μF,50V
		C7009	QCSB1HJ-150	CAPACITOR	15pF,50V
		C7010	QCFB1HZ-104	CAPACITOR	0.1μF,50V
		C7011	QETN1AM-227	E CAPACITOR	220μF,10V
		C7019	QDVB1EZ-223Y	CAPACITOR	0.022μF,25V
		S7001	QSW0456-002Z	TACT SWITCH,POWER	
		S7002	QSW0456-002Z	TACT SWITCH,CH+	
		S7003	QSW0456-002Z	TACT SWITCH,CH-	
		S7004	QSW0456-002Z	TACT SWITCH,REC	
		S7005	QSW0456-002Z	TACT SWITCH,PAUSE	
		S7006	QSW0456-002Z	TACT SWITCH,PLAY	
		S7007	QSW0456-002Z	TACT SWITCH,STOP/EJECT	
		S7010	QSW0456-002Z	TACT SWITCH,TBC	
		S7011	QSW0456-002Z	TACT SWITCH,TIMER	
		S7012	QSW0456-002Z	TACT SWITCH,REVIEW	
		S7013	QSW0456-002Z	TACT SWITCH,REC LINK	
		S7014	QSW0456-002Z	TACT SWITCH,SP/LP	
		S7015	QSW0456-002Z	TACT SWITCH,SYNC.EDIT	
		S7016	QSW0456-002Z	TACT SWITCH,INSERT	
		S7017	QSW0456-002Z	TACT SWITCH,A.DUB	
		DI7001	QLF0032-002	FL TUBE	
		HD1	LP30428-001A	FDP HOLDER(L),DI7001	
		HD2	LP30429-001A	FDP HOLDER(R),DI7001	
		HD3	PQM30038-2-2	LED HOLDER,D7009	
		HD4	PQM30038-1-2	LED HOLDER,D7010	
		HD5	PQM30038-2-2	LED HOLDER,D7011	
		CN7001	QGF1207C1-14	FPC CONNECTOR,(1-14)MAIN	

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SW/DISPLAY BOARD ASSEMBLY(S9600EK) <28>

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
PW1	LPA10067-01B1	DISPLAY BOARD ASSY	
IC7001	M35500BGP	IC	
	or M35500AGP	IC	
	or M35500BFP	IC	
IC7002	PNA4652M00XB	IR DETECT UNIT	
	or GP1U281X	IR DETECT UNIT	
Q7001	DTC144WS	TRANSISTOR	
Q7002	2SC1740S/QRS/-T	TRANSISTOR	
	or 2SC3199/YG/-T	TRANSISTOR	
Q7003	2SA933AS/QRS/-T	TRANSISTOR	
	or 2SA1267/YG/-T	TRANSISTOR	
D7002	RD9.1ES/B2/-T2	ZENER DIODE	
	or MTZJ9.1B	ZENER DIODE	
	or UZ9.1BSB	ZENER DIODE	
D7004	1SS133	DIODE	
D7005	1SS133	DIODE	
D7006	1SS133	DIODE	
D7007	1SS133	DIODE	
D7012	1SS133	DIODE	
D7013	1SS133	DIODE	
D7014	1SS133	DIODE	
R7001	QRE141J-471Y	RESISTOR	470Ω,1/4W
R7002	QRE141J-471Y	RESISTOR	470Ω,1/4W
R7003	QRE141J-471Y	RESISTOR	470Ω,1/4W
R7004	QRE141J-471Y	RESISTOR	470Ω,1/4W
R7005	QRE141J-103Y	RESISTOR	10kΩ,1/4W
R7006	QRE141J-103Y	RESISTOR	10kΩ,1/4W
R7007	QRE141J-103Y	RESISTOR	10kΩ,1/4W
R7008	QRE141J-103Y	RESISTOR	10kΩ,1/4W
R7009	QRE141J-103Y	RESISTOR	10kΩ,1/4W
R7010	QRE141J-153Y	RESISTOR	15kΩ,1/4W
R7013	QRE141J-103Y	RESISTOR	10kΩ,1/4W
R7020	QRE141J-103Y	RESISTOR	10kΩ,1/4W
R7021	QRE141J-122Y	RESISTOR	1.2kΩ,1/4W
R7022	QRE141J-182Y	RESISTOR	1.8kΩ,1/4W
R7023	QRE141J-222Y	RESISTOR	2.2kΩ,1/4W
R7024	QRE141J-272Y	RESISTOR	2.7kΩ,1/4W
R7025	QRE141J-472Y	RESISTOR	4.7kΩ,1/4W
R7026	QRE141J-682Y	RESISTOR	6.8kΩ,1/4W
R7027	QRE141J-153Y	RESISTOR	15kΩ,1/4W
R7028	QRE141J-393Y	RESISTOR	39kΩ,1/4W
R7030	QRE141J-103Y	RESISTOR	10kΩ,1/4W
R7031	QRE141J-122Y	RESISTOR	1.2kΩ,1/4W
R7032	QRE141J-182Y	RESISTOR	1.8kΩ,1/4W
R7033	QRE141J-222Y	RESISTOR	2.2kΩ,1/4W
R7034	QRE141J-272Y	RESISTOR	2.7kΩ,1/4W
R7035	QRE141J-472Y	RESISTOR	4.7kΩ,1/4W
R7036	QRE141J-682Y	RESISTOR	6.8kΩ,1/4W
R7037	QRE141J-153Y	RESISTOR	15kΩ,1/4W
R7038	QRE141J-393Y	RESISTOR	39kΩ,1/4W
R7040	QRE141J-331Y	RESISTOR	330Ω,1/4W
R7041	QRE141J-331Y	RESISTOR	330Ω,1/4W
R7042	QRE141J-331Y	RESISTOR	330Ω,1/4W
R7044	QRE141J-104Y	RESISTOR	100kΩ,1/4W
R7045	QRE141J-102Y	RESISTOR	1kΩ,1/4W
R7046	QRE141J-394Y	RESISTOR	390kΩ,1/4W
R7047	QRE141J-101Y	RESISTOR	100Ω,1/4W

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
R7048	QRE141J-472Y	RESISTOR	4.7kΩ,1/4W
C7001	QCFB1HZ-104	CAPACITOR	0.1μF,50V
C7002	QETC1HM-106	E CAPACITOR	10μF,50V
C7007	QETN1HM-476	E CAPACITOR	47μF,50V
C7009	QCSB1HJ-150	CAPACITOR	15pF,50V
C7010	QCFB1HZ-104	CAPACITOR	0.1μF,50V
C7011	QETN1AM-227	E CAPACITOR	220μF,10V
C7019	QDVB1EZ-223Y	CAPACITOR	0.022μF,25V
C7022	QDVB1EZ-223Y	CAPACITOR	0.022μF,25V
C7192	QCBB1HJ-681	CAPACITOR	680pF,50V
C7194	QCBB1HJ-681	CAPACITOR	680pF,50V
L7191	QRE141J-101Y	RESISTOR	100Ω,1/4W
L7192	QRE141J-101Y	RESISTOR	100Ω,1/4W
S7001	QSW0456-002Z	TACT SWITCH,POWER	
S7002	QSW0456-002Z	TACT SWITCH,A.MONITOR	
S7003	QSW0456-002Z	TACT SWITCH,C.RESET	
S7004	QSW0456-002Z	TACT SWITCH,OK	
S7005	QSW0456-002Z	TACT SWITCH,RAE	
S7006	QSW0456-002Z	TACT SWITCH,PROGRAM	
S7007	QSW0456-002Z	TACT SWITCH,STOP/EJECT	
S7008	QSW0456-002Z	TACT SWITCH,MARK	
S7009	QSW0456-002Z	TACT SWITCH,ERASE	
S7010	QSW0456-002Z	TACT SWITCH,TBC	
S7011	QSW0456-002Z	TACT SWITCH,SP/LP	
S7012	QSW0456-002Z	TACT SWITCH,TIMER	
S7013	QSW0456-002Z	TACT SWITCH,REC LINK	
S7014	QSW0456-002Z	TACT SWITCH,TV/VCR	
S7015	QSW0456-002Z	TACT SWITCH,SYNC.EDIT	
S7016	QSW0456-002Z	TACT SWITCH,REVIEW	
S7017	QSW0456-002Z	TACT SWITCH,DISPLAY	
DI7001	QLF0032-002	FL TUBE	
HD1	LP30428-001A	FDP HOLDER(L),DI7001	
HD2	LP30429-001A	FDP HOLDER(R),DI7001	
J7191	PEMC1126-04	PIN JACK,VIDEO IN	
J7192	PEMC0922-03	PIN JACK(SW),A(L)IN	
J7193	PEMC0922-02	PIN JACK(SW),A(R)IN	
J7194	QND0010-001	S JACK,S VIDEO	
CN7001	QGF1207C1-14	FPC CONNECTOR,(1-14)MAIN	
CN7002	QGF1202C1-08	FPC CONNECTOR,(1-8)DOOR	
CN7191	QGF1207C1-05	FPC CONNECTOR,(3-7)MAIN	
CN7192	QGF1207C1-04	FPC CONNECTOR,(1-4)MAIN	

* *

REC SAFETY BOARD ASSEMBLY(S8600EK) <32>

PW2	LPA10056-01A2	REC SAFETY BOARD ASSY
S7041	QSW0602-003	PUSH SWITCH
FW7001	QUM032-07A4A4	PARA RIBON WIRE

* *

REC SAFETY BOARD ASSEMBLY(S9600EK) <32>

PW2	LPA10067-01B2	REC SAFETY BOARD ASSY
S7041	QSW0602-003	PUSH SWITCH
FW7001	QUM032-07A4A4	PARA RIBON WIRE

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	

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JACK BOARD ASSEMBLY(S8600EK) <36>

REF No.	PART No.	PART NAME, DESCRIPTION	
PW4	LPA10056-04A4	JACK BOARD ASSY	
C7192	QCBB1HJ-681	CAPACITOR	680pF,50V
C7194	QCBB1HJ-681	CAPACITOR	680pF,50V
L7191	QRE141J-101Y	RESISTOR	100Ω,1/4W
L7192	QRE141J-101Y	RESISTOR	100Ω,1/4W
J7191	PEMC1009-04	PIN JACK,VIDEO IN	
J7192	PEMC1010-03	PIN JACK(SW),A(L)IN	
J7193	PEMC1010-02	PIN JACK(SW),A(R)IN	
J7194	QND0009-001	S JACK,S VIDEO	
CN7191	QGF1207F1-05	FPC CONNECTOR,(3-7)MAIN	
CN7192	QGF1207F1-04	FPC CONNECTOR,(1-4)S-SUB	

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JOG BOARD ASSEMBLY(S8600EK) <37>

REF No.	PART No.	PART NAME, DESCRIPTION
PW3	LPA10056-01A3	JOG BOARD ASSY
UN7091	PEME0976	JOG ASSY
CN7005	QGF1207F1-06	FPC CONNECTOR,(1-6)MAIN

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LOADING MOTOR BOARD ASSEMBLY <55>

REF No.	PART No.	PART NAME, DESCRIPTION	
PW2	LPA10010-01A2	LOADING MOTOR BOARD ASSY	
C1	QFV61HJ-104Z	F CAPACITOR	0.1μF,50V
OT1	PU59915-105	#500SPACER0.01,C1	
CN1	QGB2533K1-02	CONNECTOR	

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION

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